FINAL REPORT

NEW BRUNSWICK AGRICULTURAL PRODUCTS CONSUMPTION STUDY

Presented to

New Brunswick Department of Agriculture
& Rural Development

Presented by

Spatial Planning Inc.
Charlottetown, P.E.I.

April 8, 1983

Spatial Planning Inc.

Spatial Planning Inc.

P.O. Box 2193
Charlottetown
Prince Edward Island
C1A 8B9

April 8, 1983

Mr. Doug Cressman
Market Development Branch
New Brunswick Department of
Agriculture & Rural Development
P. O. Box 6000
Fredericton, New Brunswick
E3B 5H1

Dear Mr. Cressman:

We are pleased to present the final report of the New Brunswick Agricultural Products Consumption Study. A system to annually monitor production, import, export, consumption and self-sufficiency of New Brunswick agriculture products has been recommended.

Although it is possible to estimate consumption and self-sufficiency we emphasize that the resulting figures must be used with caution. This system will identify a surplus or deficit at the appropriate level and indicate the need for further and more detailed investigation into a particular commodity.

We are very pleased to have had the opportunity to work on this project with you.

Yours truly,
SPATIAL PLANNING INC.

Douglas M. MacArthur
PRESIDENT

Phone (902) 894-9362
Telex 014-44237

TABLE OF CONTENTS

	Page
Letter of Transmittal	ii
SYNOPSIS	iv
INTRODUCTION	1
CONCLUSIONS	3
RECOMMENDATIONS	8
APPROACH & METHODOLOGY	17
COMMODITY ANALYSIS	29
Poultry & Poultry Products	29
Red Meats	48
Field Crops	83
Fruits	96
Vegetables	114
Dairy Products	122
EVALUATION OF THE RESIDUAL APPROACH	137
APPLICATION AND EVALUATION OF QUEBEC APPROACH	145
APPENDIX	

Spatial Planning Inc.

SYNOPSIS

The New Brunswick Department of Agriculture & Rural Development commissioned Spatial Planning Inc. to study the potential of establishing a system to annually monitor the production, import, export, consumption and self-sufficiency of agricultural food products for New Brunswick. The feasibility of using secondary data sources was examined as well as the possibility for improving available information and collecting additional primary information to fill any data gaps.

Two methods of developing consumption and self-sufficiency were studied: the residual approach and the taste factor approach used in a study completed by the Quebec government. The residual approach involves the following calculations:

Production + Imports + Beginning Stocks = Gross Supply Gross Supply - Exports - Ending Stocks = Net Supply
Net Supply - Seed Requirements - Manufacturing Input - Livestock Feed = Food Gross
Food Gross - Waste = Net Food Supply

The taste factor approach used in the Quebec study is based upon the assumption that the income, eating habits and cultural habits of New Brunswick residents differ from those

Spatial Planning Inc.

of Canadians in general. Reference to Statistics Canada surveys of food expenditure in major Canadian centers including Saint John allows the calculation of a ratio between the Canadian and New Brunswick per person consumption by food volume. This factor can then be applied to the national data on apparent consumption of agricultural products to yield per capita consumption of agricultural products sold at retail in the province.

In order to compare consumption to production, it is necessary to multiply it by the population and add losses sustained in distribution. The self-sufficiency rate for a given product can then be calculated by measuring the ratio of quantity harvested to quantity consumed.

Secondary sources of information were available for production input into the residual calculations but import and export data were very difficult to obtain.

Commodity movement data could be obtained for many commodities by rail but since such limited quantities are moved by this mode, this information is not very useful. Truck movement is essential to determine net unloads of all commodities. Unfortunately only two surveys provide information on truck movement and neither survey provides any information of value for New Brunswick.

Spatial Planning Inc.

Since no information on origin and destination of commodities handled through distributors is documented, a small survey of wholesalers was completed to provide estimates of imports. Information was obtained for fresh fruits and vegetables but due to the limited number of processors handling red meats, poultry meat and dairy products no information was obtained on these commodity groups.

Total export movement of commodities and manufacturing input were estimated based upon available information from Agriculture Canada, Statistics Canada, commodity specialists, marketing boards and producer associations.

Assuming that our estimations account for all significant commodity movements and processing inputs, that beginning and ending stocks are equal and available production statistics are accurate, we have calculated consumption and self-sufficiency for eggs, milk, rutabagas, corn, cabbage, beans, cauliflower, beets, tomatoes, lettuce, carrots, apples, strawberries, blueberries and raspberries. No residual calculations can be completed for red meats, poultry meat or dairy products.

The residual estimates of self-sufficiency can be used at the aggregate level to indicate deficit or surplus but are only approximate. A second approximation of

Spatial Planning Inc.

self-sufficiency for agricultural products for which production information is available can be made using the taste factor method.

If sufficient documented information is available, the residual approach is the preferred method (eggs, milk). For those products such as processed dairy products and meats, the taste factor calculation provides the only estimation. For fruits and vegetables, neither method is preferred and in fact estimations using both methods should be examined and the range considered.

The consumption and self-sufficiency estimations provided in this study must be used carefully. If a deficit is indicated, this is a sign to look further at this particular commodity. Seasonality of production and export, price differentials between "N.B. Crown" and exports, consumer preference (freshness, price, source, etc.) and storage are among the factors which must then be examined to see whether or not further efforts in developing production and marketing of the commodity is warranted.

As a result of the analysis of consumption and self-sufficiency methodology and results, Spatial Planning Inc. recommends:

Spatial Planning Inc.

1. An annual system to monitor production import, export, consumption and self-sufficiency be established by New Brunswick Department of Agriculture and Rural Development to assist in market planning.

2. Both the residual and taste factor methods should be used to develop consumption and self-sufficiency estimates. Secondary data only is required for the taste factor method while some survey work is required to complete the residual calculations.

3. A monthly survey of major wholesalers should be undertaken to provide import data for the residual calculations.

4. An annual survey of major grower/shippers identified by producer associations and commodity specialists should be completed to identify export movement. This work could be a cooperative effort between producer associations and the New Brunswick Department of Agriculture.

5. During the 1980's, new family food expenditure data will be available every two years and can be used to update calculations based upon the taste factor method. The range of self-sufficiency resulting from both

Spatial Planning Inc.

methods should then be examined, particularly for fruits and vegetables.

6. The Market Development Branch should act as a liaison between the various bodies which have potential to provide market information in an effort to improve the quantity and quality of such information.

7. The Canadian Transport Commission should be encouraged to develop a system to easily retrieve the trade commodity flow data available on waybills submitted for Atlantic Region Freight Assistance.

8. Statistics Canada should be approached regarding improving the quality of the "For Hire" Trucking Survey particularly so that it will provide more detailed information for New Brunswick.

9. For detailed information regarding consumer preference for "N.B. Grown" products a detailed consumer diary survey would be required.

10. For commodities with significant deficits some consumer information could be obtained by adding a few more questions to the "N.B. Grown" advertising campaign evaluation.

Spatial Planning Inc.

INTRODUCTION

The New Brunswick Department of Agriculture is interested in setting up a system to monitor the production, import, export, consumption and self-sufficiency of agricultural products for New Brunswick on an annual basis. This information system is to be used to aid in the market planning for New Brunswick agricultural products.

The residual approach to calculating consumption was examined in this study. This methodology requires the addition of imports to production then deducts exports, manufacturing input, seed, and waste to determine total food available for consumption. Spatial Planning Inc. attempted to identify secondary data sources for use in calculating provincial consumption, fill missing gaps through primary research as well as evaluate this approach for use by the New Brunswick

Department of Agriculture & Rural Development on an annual basis.

The Quebec government completed a study of self-sufficiency for that province in 1972. The applicability of the methodology utilized in that study was evaluated for New Brunswick.

This report begins with the conclusions of our research and presentation of recommendations for the future analysis of the import, export, consumption and self-sufficiency of agricultural products for New Brunswick. A comprehensive discussion of approach and methodology, commodity analysis, and an evaluation of the residual and Quebec approach are also included in the report.

CONCLUSIONS

There are numerous sources of statistical information on agricultural products produced in New Brunswick. After a thorough examination of this data, it is evident that import and export data cannot be obtained or deduced from secondary sources alone.

It is possible to develop estimates of consumption and self-sufficiency using secondary data only. With additional survey information it is also possible to estimate import and export movement of agricultural commodities and develop a second estimation of consumption and self-sufficiency for some agricultural commodities.

Production information can be easily gathered from Statistics Canada, Agriculture Canada and some marketing boards. While production figures from these sources sometimes vary, Statistics Canada

attempts to provide as accurate estimates as it is possible to develop.

Total import and export data is only available for eggs and milk through their respective marketing boards. Information on movement of live hogs is also available. For virtually every other commodity there is a serious lack of data on trade movements. Commodity associations, although numerous, have no information and Statistics Canada and Agriculture Canada have some bits and pieces of information. We have derived estimates of imports into the province from a wholesaler survey as well as some secondary data and export information is based upon opinions of government and industry representatives supplemented with some recorded information.

Calculations of consumption and self-sufficiency using the residual approach were completed for eggs, milk, rutabagas, corn, cabbage, beans, cauliflower, beets, tomatoes, lettuce, carrots,

apples, strawberries, blueberries and raspberries. The resulting approximations of consumption and self-sufficiency are based upon a number of assumptions regarding the import and export figures as well as commodity quantities used in processing. Most calculations were completed for only one year although sufficient historical information was available to estimate the self-sufficiency for five years for eggs and milk.

The validity of these approximations is difficult to ascertain but at the aggregate level do provide an indication of deficit and surplus.

The methodology used in the Quebec study provides a means of estimating consumption and self-sufficiency using Statistics Canada data only. Information contained in Family Food Expenditure surveys completed in a number of major metropolitan areas provide some information on food preferences in the New Brunswick city of Saint John compared to the rest of Canada and a

taste factor can be developed. The Canadian per capita consumption can be adjusted using this taste factor to develop approximations of New Brunswick consumption as well as an estimate of self-sufficiency.

This taste factor method results in estimates of self-sufficiency that are, in most cases, different from estimates based upon the residual calculations. Some differences are as much as 20% but in most cases deficit or surplus indicated by one method is confirmed by the other. These two methods therefore present a range for New Brunswick self-sufficiency. For products for which detailed export and import data can be obtained, the results of the residual method are definitely preferred. For those commodities for which trade movement was estimated (fruit and vegetables) neither method is preferred and the range should be examined. For some commodities, the taste factor method provided the only estimates available.

A time lag of at least six months is inevitable in using the residual approach since production and other statistics are just not available. Information for the Quebec approach utilizing taste factors is at least one year behind.

The estimates of self-sufficiency developed in this study must be used carefully. If a deficit is indicated, this is a sign to look further at this particular commodity. Seasonality of production and export price differentials between "N.B. Grown" and imports, consumer preference (freshness, price, source, etc.) and storage potential are only a few of the factors which must than be examined to see whether or not further efforts in developing production of the particular commodity might be warranted.

RECOMMENDATIONS

Spatial Planning Inc.'s analysis of methods to develop and maintain information on production, import, export, consumption and self-sufficiency has indicated that a number of problems are encountered in gathering the required data. The recommendations in this section follow directly from the research completed during the study and are divided into two sections, recommendations for an annual monitoring system and other recommendations regarding efforts which should be made to improve the availability of data and the quality of that data.

System Recommendations

1. An annual system to monitor production, import, export, consumption and self-sufficiency should be established by the Market Development Branch of New Brunswick Department of Agriculture and Rural

Development. The information provided by this system should be valuable in assessing those commodities which merit further investigation from a marketing and production perspective. In addition, the establishment of this system will encourage the cooperation of the various bodies involved in gathering statistical information for the province and should lead to improvements in quantity and quality of data. Information on taste factors which would be provided in the proposed system would identify commodities for which preferences are very different from the national average and may suggest possible areas for additional marketing programs designed to influence consumer preferences.

2. Two methods should be utilized in developing the information: residual approach and the taste factor approach. Complete data to use the residual approach is only available for milk and eggs. Both methods should,

therefore, be used to develop ranges of consumption and self-sufficiency particularly for fresh fruits and vegetables. The use of the residual approach for these commodities requires the collection of some primary data. For red meats, poultry meat and dairy products the taste factor approach only can be used at this time since information on imports and exports from processors/distributors is next to impossible to obtain.

3. In order to complete the residual calculations a survey of wholesalers should be undertaken to obtain estimations of imports, quantities and origins.

A survey of the three major wholesalers in New Brunswick should be completed monthly to limit the error contained in estimating shipments received over a total year. Most of the wholesalers do not have a system

whereby they can easily provide annual totals of agricultural products carried, consequently a more frequent survey seems necessary. Wholesalers are interested in buying local produce as much as possible and to date have shown a desire to cooperate with New Brunswick Agriculture in their survey of prices of fruits and vegetables. This survey would be a simple extention of the present market information system.

After the development of a suitable form which is agreeable to both wholesalers and the department, this survey could be completed in a couple of hours each month. During the period of highest imports as indicated by the Agriculture Canada Saint John Unload Reports, it may be desirable to speak with these distributors every two weeks rather than monthly.

4. Since limited information on New Brunswick fruit and vegetable products destined for markets outside of the province is available a small survey of grower/shippers is also recommended. (Some information on imports may also be obtained as some grower/shippers repack product purchased outside the province) Major growers/shippers should be identified by the respective commodity agencies or associations and the New Brunswick Department of Agriculture and Rural Development commodity specialists. A call to these individuals once a year just following the shipping season should be sufficient. After the initial sample is identified and other survey design carefully organized, this survey should require only a total of two to three days to complete. This work could be completed by the New Brunswick Department of Agriculture or by the individual organizations with survey design controlled by the New Brunswick Department of

Agriculture and Rural Development, Marketing Branch.

5. The taste factor methodology will be used annually to assess consumption and self-sufficiency and together with the residual calculations provide a range of consumption and self-sufficiency for many of the agricultural products. New taste factors should be developed as soon as a new family food expenditure survey is completed by Statistics Canada (late 1983). Using these 1982 taste factors new consumption and self-sufficiency estimates can be calculated using these figures, 1981 Canadian apparent per capita consumption, and New Brunswick 1981 production information. The use of 1982 taste factors with 1981 information is recommended because the only other taste factor available is four years old (1978). Of course a closer approximation of New Brunswick consumption using this method will

be obtained when 1982 Canadian per capita and 1982 production information are used together with this 1982 factor.

Other Recommendations

1. The Market Development Branch could act as a liaison between the various bodies which have potential to provide market information. Statistics Canada is very interested in working with marketing agencies and producer associations to improve quantity and quality of agricultural product data available. Agriculture Canada food inspection branch has the potential to provide a wealth of information on commodity movements particularly for named commodities (potatoes, apples, peas, rutabagas, parsnips, carrots, beets and onions). Much of the information is never tabulated. The numerous producer associations and marketing bodies also have potential to provide information. A

concerted effort by all these bodies should lead to improved market information particularly for fresh products.

2. At the present time an investigation into an appropriate New Brunswick vegetable marketing system is being completed. The market information must be considered.

3. The Canadian Transport Commission has a wealth of information on commodity movements contained on waybills submitted for Atlantic Region Freight Assistance. New Brunswick Agriculture should encourage the commission to develop a system which would allow easy retrieval of this trade flow data for the various commodities.

4. The Statistics Canada "For Hire Trucking Survey" presents limited information of value to New Brunswick. Statistics Canada should be encouraged to increase the size of the sample of firms surveyed and generally

improve truck movement information for the province.

5. If a detailed analysis of consumer preference for New Brunswick agricultural products is desired, a consumer diary survey would be the best method. The cost of this survey would probably range between $20,000 to $25,000 but would provide a great deal of information on percent of locally produced other Canadian and imported product consumed, other influences on purchasing behavior, etc.

   An alternate and less costly approach to obtaining some limited information on consumer preference is through the annual "N.B. Grown" evaluation. For these products in deficit position some detailed questions could be included and would provide some information at relatively low cost.

APPROACH & METHODOLOGY

The methodology that we have used emphasized the use of secondary data sources. Many problems which arose during the study required the collection of some primary data. We have endeavoured to determine as many sources of secondary information as possible so that data could be cross-checked and then to fill any data gaps by collection of primary data.

Our efforts to determine provincial consumption have been based upon the residual approach. Basically this involves determining the production and imports for each commodity i.e. the gross supply. The gross supply is then reduced by exports from the province, seed requirements, manufacturing input and waste to result in net food supply. This is the quantity of food available for consumption within the province. When the net food supply is divided by the

population the result is apparent per capita consumption.

While the results for each commodity are discussed in a separate section many sources of information and problems with data collection are common to all the commodities and these will be discussed here under each component of the food balance sheet.

Production:

Information on production has been gathered from the New Brunswick Department of Agriculture, Agricultural Statistics book and supplemented where required with additional information from Statistics Canada, Truro Office, Agriculture Canada publications and representatives in the Agriculture Canada Moncton office. Production information has also been examined from marketing boards which produced such information. Statisticians responsible for production estimates

have been contacted and explanations for any differences sought. The Statistics Canada information has been used in any cases where discrepancies have occurred unless otherwise noted.

Exports & Imports:

This information is essential in using the residual approach. It is, however, the most difficult information to obtain. As could be anticipated, information on movement across provincial borders can be much more readily obtained for regulated commodities such as milk and eggs than for products such as strawberries or meats.

The following sources of import/export information were examined for input in this study:

For Hire Trucking Survey - Statistics Canada: New Brunswick is in a small weight class and therefore

often excluded from this survey. Information that is available would be meaningless when broken down by commodity.

Prince Edward Island-New Brunswick Truck Movements - Dr. Wilson, University of New Brunswick: This study apparently produced no data that would be relevant to our study.

Exports and Imports of Goods by Province - Statistics Canada: Data was available for manufactured goods only. Nothing is currently available on agricultural commodities although a study in this area is underway. Joel Diena, Head of Regional Accounts Research Section, Gross National Product Division, Statistics Canada has been our contact on this topic.

Canadian Transport Commission Rail Flow Data: Information was available only for general agricultural classes that lacked sufficient detail to be of value in this study.

Canadian Institute of Guided Ground Transport: The cost of retreiving data from this organization is high (over $8,000 for information we might have requested). The data base used to provide this information for truck is the "For Hire Trucking Survey" of Statistics Canada. As previously discussed, this would be of no value for our purposes. The railway data base is composed of a complete annual census of waybill data from CN and CP rail. While a very detailed breakdown of commodities by origin and destination might be available, the information on rail available through Statistics Canada publications (based on CIGGT information) is sufficient at this time.

Railway Transport, Commodity Origin & Destination Statistics - Statistics Canada: Microfiche records of commodity origin and destination for each of the agricultural commodity groups from the Standard Commodity Classification of Statistics Canada were received from Statistics Canada and provided some useful information.

Canadian Transport Commission Trucking Survey, 1977: Data based upon a 5% sample of all waybills submitted for subsidy under the Iintra-regional Transportation Assistance Program and 20% sample of all waybills submitted for the Westbound Subsidy. In using this data, however, two problems became obvious: Information from the survey seemed to result in unreasonable estimates of commodity movements and the commodity breakdown was often too broad to be of value.

C.T.C. manually audits all subsidy claims, therefore, there is no easy way to get a complete census of commodity movements under the various freight assistance programs. All claims are stored for 7 years and C.T.C. can manually access them at any time. The 1977 survey involved students manually checking a small sample of the total of 2 million waybills received in 1977.

The concept of automation is now being examined by C.T.C. for use in auditing subsidy claims as well

as providing information on commodity movements. There are, however no definite plans at this time.

Annual Unload Report: Fresh Fruits and Vegetables - Agriculture Canada: This report contains details of unloads for fresh fruits and vegetables for consumption for Saint John, New Brunswick only but provided an indication of sources and transportation modes that would be similar for other New Brunswick centers.

Destination of Manufacturers Shipments, 1979 - Statistics Canada: Information from this document has been referenced, however, the data is supplied by Standard Industrial Classification rather than Standard Commodity Classification and therefore cannot be directly applied to a particular commodity. It could potentially be helpful, however, due to confidentiality restrictions, practically no information is available for New Brunswick.

Origin & Destination of Goods of Merchandising Establishments - Statistics Canada: No information is yet available from this survey. It was originally anticipated that at least preliminary information would have been available in early 1982. This study is based upon a small sample for New Brunswick. Information will be presented by Standard Industrial classification, by kind of business, not by commodity.

Agriculture Canada Publications such as the Poultry Market Review, Livestock Market Review and Crop and Seasonal Price Summaries were referenced and contained movement information for some commodities.

To supplement the somewhat limited import and export information in published form, telephone interviews were held with the New Brunswick Department of Agriculture & Rural Development commodity specialists, secretary managers of

marketing boards and growers associations, meat and dairy processors, and wholesalers.

Most of the information available from commodity specialists, and associations was of a general nature. More specific information on commodity movement was obtained from the egg, milk and hog marketing boards as well as processors and wholesalers.

Based upon estimates of market share of wholesalers and the results of our survey, estimates of total quantity of imports through the distribution system into New Brunswick were computed where possible. The movement of agricultural products through farmers markets are not readily available but we have assumed that insignificant quantities of agricultural commodities are imported for sale through these markets other than through the distribution system.

Beginning and Ending Stocks:

For ease of calculation, beginning and ending stocks are assumed to be equal.

Seed Requirements:

This information has been obtained for commodities such as potatoes and eggs from Statistics Canada. Seed production for other commodities is negligible.

Manufacturing Inputs:

Due to confidentiality restrictions, Statistics Canada was unable to provide this information in some cases. In the case of vegetables, however, production figures do not include acreages grown for processing except for cucumbers. Commodity specialists and marketing boards provided estimates for some products.

Waste Factors:

Statistics Canada provided factors used in the national consumption calculations.

Calculations of provincial apparent per capita consumption using the residual approach were then completed for those commodities for which sufficient information was available.

A study of self-sufficiency completed by the Quebec government made use of a somewhat different approach to calculate provincial per capita consumption and self-sufficiency. This method relied totally upon secondary data sources.

The Quebec report "Consumption and Self-Sufficiency Rate" Number Two of the Agri-Food Profile Series of the Quebec Department of Agriculture was examined to determine if similar calculations could be completed for New Brunswick.

An assessment of both techniques was completed as well as recommendations for future study in the area.

COMMODITY ANALYSIS

Poultry & Poultry Products

Eggs:

Information on egg supplies in New Brunswick is relatively easy to obtain. Opinion as to the quality of the information varies, however, some improvements in the information can be expected.

Production information is available for the 1976-80 period from Statistics Canada and disposition is broken down by eggs sold for consumption and sold for hatching. Statistics Canada figures are based upon census information and annual surveys of farm operators. The Egg Marketing Board has production figures for sold for consumption based upon seals sold by the Board. The figures shown include all eggs sold although small numbers may be sold without seals. Cracks and pee wees which may be sold, for example, at a farmers market, are not included in

board figures. The Egg Marketing Board is making a serious attempt to improve production information by requiring producers to report production on a weekly basis. Statistics for this year are being collected using this process.

The Statistics Canada figures have been used in our calculations. Explanations for the differences in production figures are difficult to obtain. Some problems with inventory and slightly different reporting periods may be involved.

Movement of eggs from province to province is published regularly by Agriculture Canada Marketing & Economics Branch and by CEMA. The Agriculture Canada report appears to provide a relatively good picture of interprovincial movement of eggs passing through registered grading stations. Some movement of eggs may, however be omitted. The majority of eggs come into the province from Nova Scotia with quantities

also coming from Manitoba, Ontario, Quebec and Prince Edward Island.

The New Brunswick Egg Marketing Board has provided information on total movement of eggs for consumption into New Brunswick from the United States and other provinces based upon regular wholesalers reports. In addition, CEMA has provided interprovincial egg movement data based upon declarations from all those involved in interprovincial trade such as producers, grading stations, producer vendors and processors. CEMA data should theoretically be the most comprehensive so it is used for calculations. The discrepancies evident in the trade data from the various sources are also difficult to explain. Once again, some slight difference in reporting period for Agriculture Canada and the Canadian Egg Marketing Agency can explain some differences.

Attempts to cross-check information with transportation information were not successful.

Trucking information from the Canadian Transportation Commission for eggs was not usable since quantity shipped was not reported (hundred weight is the only quantity designation used in the C.T.C. survey). Rail information did not include a category for eggs alone.

Imports of eggs from outside of Canada are available from Statistics Canada External Trade reports and Agriculture Canada's Poultry Market Reports. External trade figures do not indicate final destination of imports or origin of exports. When compared with Agriculture Canada figures, there are some significant differences. Agriculture Canada collects data from health inspection certificates by origin and destination and this information is, therefore, of better quality and is used in calculations.

No significant quantity of eggs are exported to other countries from New Brunswick.

Eggs that would be used as breakers (manufacturing) are included in reports of interprovincial egg movement. Waste is considered to be zero for eggs.

Using the information from the sources discussed above, New Brunswick apparent per capita consumption and self-sufficiency rates for eggs are calculated in the following table. The provincial self-sufficiency steadily increased from 1976 to 1980 with only slight decline in 1981. Although the province produces a surplus of eggs (the majority of which are sold through the CEMA surplus removal program) imports of eggs into the province annually ranged from 8% to 18%. This situation is apparently caused by the importation of eggs for store specials causing displacement of lower grade eggs which must subsequently be declared as surplus.

TABLE 1

NEW BRUNSWICK EGG BALANCE SHEET

	1981	1980	1979
Production[1]	9,888,000	9,380,000	8,464,000
+ Imports[2]	1,729,800	1,034,250	1,204,590
Gross Supply	11,617,800	10,414,250	10,168,540
- Exports[3]	857,400	432,900	268,300
Net Supply - Eggs For Hatching	10,760,400	9,481,350	9,900,290
	1,584,000	1,444,000	1,348,000
Gross Food Supply	9,176,400	8,538,350	8,552,290
Waste	-	-	-
Net Food	9,176,400	8,538,350	8,552,290
Population	696,403	707,100	696,200
Apparent Per Capita Consumption (Net Food / Population)	13.2	12.1	12.3
% Self-Sufficient (Production X100 / Gross Food)	107.7	109.8	104.8
% Imports (Imports X100 / Gross Food)	18.85	12.11	14.08

Table 1 Continued

	1978	1977	1976
Production	8,768,000	9,141,000	8,758,000
+ Imports	847,770	765,540	1,292,788
Gross Supply	9,615,770	9,906,540	10,050,788
- Exports	191,100	62,300	57,900
Net Supply	9,424,670	9,844,240	9,992,888
- Eggs For Hatching	427,000	776,000	737,000
Gross Food Supply	8,497,670	9,068,240	9,255,880
Waste	-	-	-
Net Food	8,497,670	9,068,240	9,255,880
Population	689,100	684,200	677,250
Apparent Per Capita Consumption (Net Food)/Population	12.3	13.3	13.7
% Self-Sufficient (Production)/Gross Food X100	103.2	100.8	94.6
% Imports (Imports)/Gross Food X100	9.97	8.44	13.96

1 Statistics Canada
2 Imports = CEMA interprovincial imports to New Brunswick + Agriculture Canada international imports to New Brunswick
3 Exports = CEMA interprovincial exports from New Brunswick

Source: Spatial Planning calculations based upon above

TABLE 2

EGG PRODUCTION & DISPOSITION, NEW BRUNSWICK

YEAR	TOTAL PRO-DUCTION	SOLD FOR CONSUMP-TION	PRODUCERS USE FOR CONSUMPTION	TOTAL CONSUMP-TION	SOLD FOR HATCHING
			- '000 dozen		
1981	9,888	8,169	135	8,304	1,584
1980	9,380	7,801	135	7,936	1,444
1979	8,964	7,476	140	7,616	1,348
1978	8,768	7,701	140	7,841	927
1977	9,141	8,212	153	8,365	776
1976	8,758	7,857	164	8,021	737

Source: Statistics Canada, Agriculture, Truro, Nova Scotia

TABLE 3
NEW BRUNSWICK EGG PRODUCTION
SOLD FOR CONSUMPTION
(Dozen)

1981	8,454,629
1980	8,336,281
1979	8,065,729
1978	7,401,863
1977	N/A
1976	N/A

Source: New Brunswick Egg Marketing Board

TABLE 4
INTERPROVINCIAL MOVEMENT OF
SHELL EGGS GRADED
(Dozen)

Into New Brunswick From Other Provinces

YEAR	MAN.	ONT.	QUE.	N.S.	P.E.I.	TOTAL
1980	170,625	18,000	95,995	1,004,070	41,460	1,330,110
1979	22,500	42,330	31,500	905,970	45,195	1,047,495
1978	-	140,865	-	805,095	-	945,960
1977	N/A	N/A	N/A	N/A	N/A	1,078,695
1976	N/A					

Out of New Brunswick To Other Provinces

1980	-	311,280	92,580	-	-	403,860
1979	-	263,970	13,215	-	-	277,185
1978	-	217,350	122,775	5,055	12,375	357,555
1977	N/A	N/A	N/A	N/A	N/A	8,100
1976	N/A					

Source: Agriculture Canada

TABLE 5

CEMA INTERPROVINCIAL EGG MOVEMENT
(Dozen)

From New Brunswick To:

YEAR	ONT.	QUE.	SASK	MAN	N.S.	NFLD	TOTAL
1981	446,340	298,545	-	112,500	-	-	857,385
1980	325,860	105,630	1,410	-	-	-	432,900
1979	245,610	22,650	-	-	-	-	268,260
1978	79,695	65,160	-	-	5,055	18,660	168,570*
1977	-	49,485	-	-	4,500	8,280	62,265
1976	-	18,360	-	-	240	39,375	57,915

To New Brunswick From:

YEAR	QUE.	ONT.	MAN.	N.S.	P.E.I.	NFLD	TOTAL
1981	80,400	181,050	97,485	1,338,015	32,850		1,729,800
1980	196,005	36,000	170,625	594,840	36,780		1,034,250
1979	31,500	-	27,000	933 825	90,030	7,500	1,204,590
1978	21,420	-	-	713,880	112,470		847,770
1977	29,805	-	-	724,380	11,355		765,540
1976	284,280	69,000	-	929,218	10,290		1,292,788

Source: Canadian Egg Marketing Agency

TABLE 6
NEW BRUNSWICK INTERNATIONAL IMPORT, EXPORT MOVEMENT OF EGGS
(Dozen)

	IMPORT FROM UNITED STATES	EXPORT TO UNITED STATES
1981	138,750	-
1980	365,535	-
1979	484,140	-
1978	154,980	22,500
1977	22,500	-
1976	292,980	-

Source: Agriculture Canada

TABLE 7
EGG MOVEMENT INTO NEW BRUNSWICK FROM OTHER PROVINCES AND UNITED STATES
(Excluding Eggs for Hatching)
(Dozen)

1981	1,558,756
1980	1,527,422
1979	1,587,730
1978	1,537,508
1977	N/A
1976	N/A

Source: New Brunswick Egg Marketing Board

TABLE 8

EXPORTS BY PROVINCE OF LADING AND IMPORTS
BY PROVINCE OF CLEARANCE
Units = Dozen

New Brunswick Domestic Exports	1981	1980	1979	1978	1977	1976
Eggs Hatching	-	-	1,037	N/A	N/A	N/A
New Brunswick Domestic Imports						
Eggs 71,566 Hatching	54,840	21,618	42,840	34,350	45,930	
Eggs in the shell NES 289,170	180,704	485,837	792,286	482,808	389,835	
Eggs, Whole; Yolk or Albumen NES	-	-	-	2,088	-	-
Eggs, dried powdered NES	-	-	-	68,912	46,000	-

Source: Statistics Canada, External Trade
Computer Printout

Poultry Meat:

While figures for production of poultry meat are available, once again there is limited recorded information on the movement of this product across provincial borders.

Poultry meat production figures are available from Statistics Canada and Agriculture Canada produces figures for slaughterings in registered stations. Since some poultry is slaughtered by producers, there is a slight difference in these figures. It is estimated that approximately 2% of total slaughterings occur on the farm.

Imports of chicken have occurred from the United States to New Brunswick over the last six years, as well as some turkey movement in 1976. Agriculture Canada reports no international exports of poultry meat from New Brunswick.

Based upon our survey of wholesalers, there are quantities of poultry imported to New Brunswick particularly for store specials from Quebec. The C.T.C. survey also indicated movement of poultry meat from Nova Scotia and Prince Edward Island, however, quantity estimates from this survey are unreasonable.

Some meat packers also bring in frozen poultry to satisfy customers desiring a full line of red meat and poultry meat from this one supplier.

Exports of poultry products from New Brunswick are occurring as evidenced by the Canadian Transport Commission truck survey. New Brunswick poultry in fresh and frozen form moved to Ontario and Quebec in 1977. When quantity figures were compared with production information, however, the estimates were unreasonable for the survey year. No breakdown for poultry meat was included in the rail information. Consequently, export and import data for New

Brunswick poultry meat is not available at this time.

Although an estimate of self-sufficiency was forthcoming from the meat packers, no quantities could be obtained. Apparently New Brunswick has a surplus of chicken especially friers, however, there is a shortfall in turkey production.

TABLE 9
POULTRY MEAT

PRODUCTION OF POULTRY MEAT IN NEW BRUNSWICK
(UNITS IN '000 LBS)

	1980	1979	1978	1977	1976
Fowl	2,254	2,091	1,471	2,270	1,237
Chicken	23,095	23,707	21,950	22,172	18,694
Turkey	2,178	2,371	2,258	2,394	2,463
Geese*	N/A	N/A	N/A	N/A	24
Ducks*	N/A	N/A	N/A	N/A	10
Total Poultry	27,527	28,169	25,697	26,836	22,428

* Data Not Available After 1976

Source: Statistics Canada

TABLE 10
POULTRY SLAUGHTERED IN NEW BRUNSWICK
IN REGISTERED STATIONS
(POUNDS IN EVISCERATED WEIGHT)

	1980	1979	1978	1977	1976
Chickens:					
Head	7,376,945	7,348,616	7,441,142	7,339,636	7,532,251
Lbs+	21,791,998	21,967,831	21,026,555	22,124,361	21,290,534
Turkeys:					
Head	236,485	226,871	235,156	267,021	251,956
Lbs+	2,168,841	2,079,662	2,193,437	2,193,437	2,137,366
Fowl: (Canners & Others)					
Head	126,321	67,262	303,150	104,751	243,882
Lbs+	654,546	282,777	899,449	424,106	715,002
Total Poultry:					
Lbs.	24,615,385	24,330,270	24,119,441	24,741,904	24,142,902

Source: Poultry Market Review, Agriculture Canada

TABLE 11

INSPECTED IMPORTS (DESTINATION N.B.) & EXPORTS (ORIGIN N.B.) OF EVISCERATED POULTRY (UNITS = POUNDS)

Imports from U.S.A.

	1981	1980	1979	1978	1977	1976
Chicken	-	-	566,500	139,012	-	126,108
Fowl	-	-	-	-	-	-
Turkey	-	-	-	-	-	72,715

Exports

	-	-	-	-	-	-

Source: Poultry Market Review, Agriculture Canada

TABLE 12
POULTRY MEAT

EXPORTS BY PROVINCE OF LADING & IMPORTS
BY PROVINCE OF CLEARING

DOMESTIC EXPORT:

	1981	1980	1979	1978	1977	1976
Fancy Meats poultry, fresh or frozen	3	-	-	N/A	N/A	N/A
Chickens fresh or frozen	22,433	924	187	N/A	N/A	N/A
Poultry fresh or frozen NES	43	813	12	N/A	N/A	N/A
Total (cwt)	22,479	1,737	199	N/A	N/A	N/A

DOMESTIC IMPORT:

Chickens fresh or frozen	838	-	5,989	522	-	2,701
Poultry fresh or frozen NES	1	-	10	1,042	-	-
Total(cwt)	839	-	5,999	1,564	-	2,701

Source: Statistics Canada, External Trade Computer Print-Out

Red Meats

Pork:

A New Brunswick self-sufficiency rate for pork cannot be calculated using the balance sheet approach since data on movements of meat could not be obtained in sufficient detail. A number of estimates of self-sufficiency, however, have been obtained as well as detailed information on movements of live hogs for slaughter.

Statistics Canada, Truro Office, produces a "balance sheet" for hogs for New Brunswick for the 1976-81 period, however, the results of the 1981 census have revealed that estimates of hog numbers in the province were off by approximately 30%. Revisions in these balance sheets are presently being made and should be ready by the end of 1982. Estimates of "killed on farm and sold", "killed on farm and consumed" and "local slaughter" on the balance sheets are helpful.

Information on hogs slaughtered in federally and provincially inspected plants by province of origin is available from Agriculture Canada and reported as hog marketings. Through the provincial hog marketing boards commercial marketings and interprovincial movement of hogs are also available.

Total marketings of hogs from Agriculture Canada and the New Brunswick Hog Marketing Board do not agree for the 1976-81 period. Discrepancies may be explained by slight differences in reporting periods used. Hog marketings reached almost 106,000 animals in 1981 with New Brunswick hogs averaging 165 pounds per carcass warm weight.

Hogs are slaughtered in New Brunswick from New Brunswick, Nova Scotia and Prince Edward Island. Hogs from New Brunswick have traditionally been slaughtered in New Brunswick, however, significant numbers were shipped to Quebec during 1980 and 1981. In 1980 a strike at the Hub plant resulted

in movement to Quebec. A large number of hogs were marketed in Quebec during 1981 due to a large drop in capacity at the Chippins plant caused by labor problems. The difference in Agriculture Canada hog slaughterings in New Brunswick and marketings figures is due to the number of animals slaughtered in Quebec. The numbers of hogs moved to Quebec in 1982 are expected to be substantially lower than in 1980 or 1981.

Data on hog movements to Quebec do not include movements across the New Brunswick-Quebec border that were not through the New Brunswick Hog Marketing Board. At one time these movements reached approximately 200 hogs per week. While the majority of this movement has been stopped some hogs are still not being handled through the board. There appears to be no easy way to get a handle on these numbers. If the hogs were moved to packing plants where meat is graded by Agriculture Canada, they would be included in New Brunswick hog marketings. If these hogs are

shipped to small plants they may not be reported to Agriculture Canada.

Approximately 12 - 15% of the hogs marketed from Prince Edward Island are slaughtered in New Brunswick. The annual numbers of Prince Edward Island hogs slaughtered in New Brunswick has ranged from 20,000 - 25,000 in the last couple of years.

The number of Nova Scotia hogs slaughtered in New Brunswick has been steadily increasing over the last 5 or 6 years and in 1980-81 was 37,300 and 1981-82, 53,700.

Transportation information did not provide information on hog or pork movements but rather was available in more general terms such as carcasses, fresh or chilled, etc.

A report entitled "Interprovincial Barriers to Trade in Agricultural Products" by Elmer L. Menzie

of the University of Guelph discussed some aspects of hog movements as the situation existed in 1978. In 1978 Quebec was the only province receiving weanling pigs with some small numbers coming from each of the Maritime provinces. According to this same report, trade flows for slaughter hogs were limited with most hogs slaughtered in the province of origin. Estimates of pork surpluses and deficits by provinces indicated that the Maritimes have been in a deficit position for many years.

Interviews held by Spatial Planning Inc. with New Brunswick meat packers confirmed the fact that New Brunswick is a net importer of pork. Estimates of self-sufficiency in pork ranged from 50 - 70% self-sufficient. These estimates, however, require some explanation.

For certain cuts of pork, New Brunswick is self-sufficient or in a surplus position. For example, bacon bellies and picnics are imported to the province and hams are only imported during

festive seasons. New Brunswick is almost self-sufficient in pork loins while there is a surplus of butt cuts. Perhaps a more realistic way to look at pork self-sufficiency would be in terms of processed and fresh pork. New Brunswick is approximately 30-35% self-sufficient in processing parts with the remainder of this requirement coming primarily from Ontario and Quebec. For fresh pork self-sufficiency is close to 100%.

Pork moves into New Brunswick from Quebec, Ontario, Prince Edward Island and Nova Scotia and out of New Brunswick to the rest of the Atlantic provinces, however, no figures on this could be obtained either from secondary or primary sources. External trade data was of little use due to the problem of no origin and destination being specified.

The total hog marketings of New Brunswick origin and local slaughter (on and off farm) result in the pork production figures indicated in Table 21.

TABLE 13

NEW BRUNSWICK HOG MARKETINGS

YEAR	AGRICULTURE CANADA	N.B. HOG MARKETING BOARD
1981	105,772	105,345
1980	89,177	89,406
1979	62,038	61,396
1978	50,013	49,569
1977	49,412	47,260
1976	47,260	44,100

TABLE 14

HOG EXPORTATION

YEAR	
1981	92
1980	762
1979	1,566
1978	96
1977	14
1976	8

Source: Agriculture Canada (Livestock Market Review)

TABLE 15

N.B. HOG MOVEMENT INTO QUEBEC FOR SLAUGHTER

1981	10,071
1980	5,078
1979	0
1978	0
1977	0
1976	0

Source: New Brunswick Hog Marketing Board

TABLE 16

MOVEMENT OF HOGS INTO N.B. FOR SLAUGHTER

	FROM NOVA SCOTIA
1981 - 82	53,716
1980 - 81	46,950
1979 - 80	N/A*
1978 - 79	N/A*
1977 - 78	N/A*
1976 - 77	N/A*

* Estimated weekly shipments of 200 - 400 hogs over this time period as hog industry developing in Nova Scotia

Source: Nova Scotia Hog Marketing Board

TABLE 17

MOVEMENT OF HOGS INTO N.B. FOR SLAUGHTER

YEAR	FROM PRINCE EDWARD ISLAND (12-15% of Total Marketing)
1981	19,335 - 24,169
1980	19,774 - 24,718
1979	18,763 - 23,454
1978	16,051 - 20,064
1977	13,606 - 17,008
1976	13,106 - 16,383

Source: Prince Edward Island Hog Marketing Board

TABLE 18
HOGS - BALANCE SHEET - NEW BRUNSWICK

	1976	1977	1978	1979	1980	1981
Beginning Inventory	42,000	42,000	41,000	49,000	50,000	61,000
Pigs Saved	70,600	72,900	78,100	87,500	113,600	148,600
Total Supply	112,600	114,900	119,100	133,500	163,600	209,600
Loss	1,800	2,200	2,000	1,600	2,600	3,900
Disposal:	68,800	71,700	71,100	81,900	100,000	133,700
Killed & Consumed [1]	1,100	1,200	800	700	800	900
Killed on Farm & Sold [1]	1,800	1,900	1,400	1,100	1,100	2,100
Commercial Marketing [2]	47,700	49,400	50,100	62,000	87,700	105,700
Local Slaughter [3]	5,500	4,600	5,400	5,000	4,100	3,800
Export out of prov. [4]				1,500		20,500
Not Accoun For [5]	12,700	14,600	13,400	11,600	6,300	700
Loss and Disposal	70,600	73,900	73,100	83,500	102,600	137,600
End Inventory	42,000	41,000	46,000	50,000	61,000	72,000

1 Self explanatory. At one time Statistics Canada surveyed for these figures but finding them consistent, the survey was dropped. Now these figures are altered to reflect change in farm numbers or changes in the industry.

2 Animals slaughtered in federally inspected plants regardless of what province they were killed in.

3 Slaughter in province regardless of origin in non-inspected plants.

4 Either to other provinces or out of Canada.

5 Until 1981 accepted as out of province movements or as inventory level problems (residual). In 1981 developed out of province figure representing movement of wieners from New Brunswick, therefore, lowering residual.

Source: Statistics Canada, Truro Office

TABLE 19

EXPORTS BY PROVINCE OF LADING AND IMPORTS BY PROVINCE OF CLEARANCE
Units = Numbers

New Brunswick Domestic Exports

	1981	1980	1979	1978	1977	1976
Swine, Pure-bred, U.S.		12	80	N/A	N/A	N/A
Swine, N.E.S. U.S.	420	531	486	N/A	N/A	N/A
St. Pierre Miq.	-	-	14	N/A	N/A	N/A
Total Swine	420	543	580	112	-	124

New Brunswick Domestic Imports

	1981	1980	1979	1978	1977	1976
Swine	-	-	-	-	-	-

Source: Statistics Canada, External Trade Computer Printouts

TABLE 20
PORK
EXPORTS BY PROVINCE OF LADING & IMPORTS
BY PROVINCE OF CLEARANCE

New Brunswick Domestic Export

	1981	1980	1979	1978	1977	1976
Pork Bellies Fresh or Frozen				N/A	N/A	N/A
Hams, Not Cooked Or Cured	124	193	1,909	N/A	N/A	N/A
Spare Ribs Fresh Or Frozen	1			N/A	N/A	N/A
Fresh Or Frozen NES	6,264	943	481	N/A	N/A	N/A
Fancy Meats	566	675	523	N/A	N/A	N/A
Cured Bacon	16	5	4	N/A	N/A	N/A
Cured Hams	101	14	11	N/A	N/A	N/A
Cured Pork NES	25		10	N/A	N/A	N/A
Boiled Ham Cooked	433			N/A	N/A	N/A
Pork Canned NES			15.30	N/A	N/A	N/A

... cont'd

New Brunswick Domestic Imports

	1981	1980	1979	1978	1977	1976
Pork Bellies Fresh Or Frozen					1,987	856
Hams Not Cooked Or Cured					525	1,090
Picnics Fresh Or Frozen	3,217	1,870	4,221	6,680	19,180	6,198
Fresh Or Frozen NES	1,169	385	3,083	8,625	13,545	7,279
Cured Bacon			4			
Cured Pork Backs	673	303	748	1,382	1,650	5,203
Shoulder Cured	411		385		1,711	2,583
Cured NES	8,928	6,549	6,633	4,286	13,903	13,933
Canned Hams	1.94					
Sp. Ribs Fresh Or Frozen				8		86

Source: Statistics Canada, External Trade Computer Printouts

TABLE 21

NEW BRUNSWICK PORK PRODUCTION
(LBS COLD DRESSED WEIGHT)

	TOTAL PRODUCTION*	SLAUGHTERED IN** NEW BRUNSWICK
1981	14,693,646	13,557,746
1980	12,412,764	11,758,181
1979	8,983,359	8,861,472
1978	7,518,496	7,518,496
1977	7,453,116	7,452,594
1976	7,263,630	7,263,630

* Based upon total Agricultural Canada commercial marketings and estimates from Statistics Canada for local and on-farm slaughter.

** Based upon slaughterings in Atlantic Provinces of New Brunswick origin and Statistics Canada estimates for local and on-farm slaughter.

Source: Spatial Planning Calculations

Beef and Veal:

New Brunswick cattle and calves balance sheets are available from Statistics Canada. The 1981 census confirmed the accuracy of the annual estimates of animal populations included on the balance sheet. Estimates of local slaughter and on farm slaughter as well as exports out of province are included in these statistics.

There appears to be only limited movement of New Brunswick cattle and calves outside New Brunswick. Slaughter cattle and calves marketed in New Brunswick are divided into those going to yards and those to plants. Those going to yards go outside New Brunswick. Agriculture Canada also provides information on feeder cattle and calf movements for export. Rail information from Statistics Canada indicated movement of live cattle to New Brunswick primarily from Ontario, Manitoba and Saskatchewan.

The New Brunswick Cattle Producers Association estimates that 85% of cattle produced in New Brunswick are finished and sold in New Brunswick. In recent years there has been a trend toward more cattle production in the Maritimes.

The difference between cattle and calves to plants and actual slaughterings may in some cases be accounted for by animals sold for slaughter not actually going to slaughter or slaughtered rather than shipped to yards. Estimates of New Brunswick self-sufficiency by meat packers ranged from 20 - 40% for beef. A large proportion of beef is being imported from the west. No interprovincial or export movement of beef for New Brunswick could be quantified.

The total slaughterings of cattle and calves in the province according to available statistics results in beef and veal production figures indicated in Table 28 and 29.

TABLE 22

CATTLE & CALVES - BALANCE SHEET
NEW BRUNSWICK

	1981		1980	
	Cattle	Calves	Cattle	Calves
Beginning Inventory	103,000		98,000	
Calves Born	52,000		50,800	
Total Supply	155,000		148,800	
Loss (death)	2,200	4,900	2,200	5,300
Disposal:	34,800	9,100	31,300	7,000
Killed & Consumed	2,300	500	2,400	500
Killed On Farm & Sold	4,200	1,500	3,700	1,600
Commercial Marketings	16,400	1,000	14,000	800
Local Slaughter	6,700	1,900	5,200	900
Export out of Prov.	600	2,600	1,700	1,400
Not Accounted For	4,600	1,600	4,300	1,800
Loss & Disposal	37,000	14,000	33,500	12,300
End Inventory	104,000		103,000	

... cont'd

TABLE 22 CONTINUED

	1979		1978	
	CATTLE	CALVES	CATTLE	CALVES
Beginning Inventory	95,000		104,000	
Calves Born	49,800		45,400	
Total Supply	144,800		147,400	
Loss (death)	2,100	5,200	2,100	4,500
Disposal:	34,000	9,100	34,900	10,900
Killed & Consumed[1]	2,200	500	2,000	500
Killed on Farm & Sold[1]	3,500	1,400	4,400	2,000
Commercial Marketing[2]	14,600	1,100	17,200	1,800
Local Slaughter[3]	6,300	1,600	6,300	900
Export out of Prov.[4]	1,500	2,200	800	2,400
Not Accounted For[5]	2,300	2,300	4,200	3,300
Loss & Disposal	32,500	14,300	37,000	15,400
End Inventory	98,000		95,000	

... cont'd

TABLE 22 CONTINUED

	1977		1976	
	CATTLE	CALVES	CATTLE	CALVES
Beginning Inventory	109,000		111,000	
Calves Born	43,100		43,100	
Total Supply	152,100		154,100	
Loss (death)	2,100	3,800	1,500	4,000
Disposal:	35,000	9,200	32,300	7,300
Killed & Consumed[1]	2,800	1,700	3,000	1,400
Killed On Farm & Sold[1]	5,100	1,600	4,200	1,300
Commercial Marketing[2]	19,200	2,400	17,800	2,000
Local Slaughter[3]	4,900	600	5,000	500
Exports out of Prov.[4]	1,400	1,200	-	-
Not Accounted For[5]	1,600	1,700	2,300	2,100
Loss & Disposal	37,100	13,000	33,800	11,300
End Inventory	102,000		109,000	

1 See hogs balance sheet (Page 59)
2 See hogs balance sheet (Page 59)
3 See hogs balance sheet (Page 59)
4 See hogs balance sheet (Page 59)
5 Residual which may be out-of-province movements or inventory level problems

Source: Agriculture Canada, Truro Office

TABLE 23
BEEF & VEAL
EXPORTS BY PROVINCE OF LADING & IMPORTS
BY PROVINCE OF CLEARANCE (cwt)

BEEF: NEW BRUNSWICK DOMESTIC EXPORT	1981	1980	1979	1978	1977	1976
Fresh chilled boneless	7	-	-	N/A	N/A	N/A
Frozen boneless	147	682	1,320			
Fresh Or Frozen NES	221	268	135	N/A	N/A	N/A
Fancy Meats Bovine Fresh or Frozen	1,943	460	1,218	N/A	N/A	N/A
Cured	580	-	-	N/A	N/A	N/A
TOTAL (cwt)	2,898	1,410	2,673	N/A	N/A	N/A
NEW BRUNSWICK DOMESTIC IMPORT						
Fresh Or Chilled Boneless	1,508	7,458	4,068	332	662	4,559
Frozen Boneless	220,737	212,932	259,150	197,200	286,090	489,598
Fresh Or Frozen NES	691	4,192	5,255	4,850	3,109	6,275
Cured	-	-	-	-	278	3,141
Canned Corned Beef	10,145	19,094	22,621	34,435	41,109	50,403
TOTAL(cwt)	23,308	243,676	291,094	236,817	331,248	553,976

TABLE 23 CONT'D

VEAL:

NEW BRUNSWICK DOMESTIC EXPORT	1981	1980	1979	1978	1977	1977
Fresh Or Frozen NES	14	5	6	N/A	N/A	N/A
NEW BRUNSWICK DOMESTIC IMPORTS						
Fresh Or Frozen NES	691	1,095	3,721	3,749	3,309	6,831

Source: Statistics Canada External Trade Computer Print-Outs

TABLE 24

CATTLE AND CALVES (OF NEW BRUNSWICK ORIGIN) SLAUGHTERED IN INSPECTED PLANTS IN ATLANTIC PROVINCES

YEAR	CATTLE	CALVES	TOTAL
1981	16,263	915	17,178
1980	14,176	859	15,035
1979	14,260	894	15,154
1978	16,267	1,521	17,788
1977	18,012	2,287	20,299
1976	16,375	1,918	18,293

Source: Agriculture Canada

TABLE 25
SLAUGHTER CATTLE AND CALVES MARKETED IN NEW BRUNSWICK

YEAR	CATTLE TO YDS.	CATTLE TO PLANTS	TOTAL
1981	23	16,263	16,286
1980	25	14,176	14,201
1979	210	14,278	14,488
1978	895	16,122	17,017
1977	1,589	18,002	19,591
1976	1,435	16,369	17,804
		CALVES	
1981	11	978	989
1980	19	859	878
1979	117	894	1,011
1978	263	1,514	1,777
1977	166	2,287	2,453
1976	117	1,918	2,035

... Cont'd

TABLE 25 CONT'D

	TOTAL CATTLE & CALVES
1981	17,275
1980	15,079
1979	15,499
1978	18,794
1977	22,044
1976	19,839

Source: Agriculture Canada Livestock Market Review

TABLE 26

MOVEMENT OF FEEDER CATTLE & CALVES
IN NEW BRUNSWICK FOR DIRECT EXPORT

	CATTLE	CALVES	TOTAL
1981	410	1,933	2,343
1980	1,379	1,465	2,844
1979	1,022	1,300	2,322
1978	648	2,219	2,867
1977	1,666	1,969	3,635
1976	952	918	1,870

Source: Livestock Market Review, Agriculture Canada

TABLE 27

CATTLE MOVEMENT BY RAIL (TONS)

To New Brunswick:

From:	1980	1979	1978	1977	1976
Quebec	-	-	-	-	-
Ontario	271	756	60	51	67
Manitoba	385	138	829	155	75
Sask.	89	-	-	-	14
Alberta	-	-	-	-	45
Total	745	894	889	206	209

... Cont'd

TABLE 27 CONT'D

From New Brunswick:

To:	1980	1979	1978	1977	1976
NFLD	-	-	10	-	20
N.S.	-	-	-	-	-
P.E.I.	-	-	-	-	-
Quebec	-	-	-		36
Ontario	-	-	-	23	10
Manitoba	-	-	-	-	-
Sask.	-	-	-	-	-
Alberta	-	-	-	-	-
Total	-	-	10	23	66

Source: Statistics Canada, Railway Transport Origin & Destination microfiche

TABLE 28

NEW BRUNSWICK BEEF PRODUCTION
(LB COLD DRESSED WEIGHT)

YEAR	TOTAL PRODUCTION*	SLAUGHTERED IN ATLANTIC PROVINCES**
1981	16,012,195	15,999,704
1980	14,115,313	14,101,475
1979	14.546,017	14,420,810
1978	15,344,936	14,957,659
1977	16,285,837	15,491,934
1976	14,780,089	14,358,872

* Based upon total Agriculture Canada commercial marketings and estimates from Statistics Canada for local and on-farm slaughter.

** Based upon slaughterings in Atlantic Province of New Brunswick origin and Statistics Canada estimates for local and on-farm slaughter.

Source: Spatial Planning calculations

TABLE 29

NEW BRUNSWICK VEAL PRODUCTION
(LBS COLD DRESSED WEIGHT)

YEAR	TOTAL PRODUCTION*	SLAUGHTERED IN ATLANTIC PROVINCES**
1981	552,929	544,552
1980	423,006	385,919
1979	460,325	448,383
1978	511,477	485,852
1977	685,015	667,113
1976	554,674	541,430

* Based upon total Agriculture Canada commercial marketings and estimates from Statistics Canada for local and on-farm slaughter.

** Based upon slaughterings in Atlantic Province of New Brunswick origin and Statistics Canada estimates for local and on-farm slaughter.

Source: Spatial Planning calculations

Mutton And Lamb:

Available statistics on lamb and sheep marketings from Agriculture Canada do not provide a realistic picture of total marketings for New Brunswick. Much of the local production is sold at the farm gate and consumed at home. Statistics Canada balance sheets do, however, provide estimates for this type of disposal.

New Brunswick lamb and mutton is not on the retail shelves. There is no provincial marketing system and meat packing plants have not been slaughtering sheep and lambs. As is evidenced by the number of slaughterings recorded by Agriculture Canada, most of the mutton and lamb marketed in the province is imported frozen from New Zealand.

Movement of New Brunswick sheep and lambs is primarily to the ethnic markets in Montreal and Toronto. New Brunswick Sheep Breeders Feedlot and Marketing Co-Op Ltd. have provided information on

total marketings of lambs, cull sheep and goats which are probably more comprehensive than Agriculture Canada figures.

An estimate of New Brunswick self-sufficiency is almost pointless at this time given the current marketing arrangements. Based upon the commercial marketings from the province and Statistics Canada, estimates of local and on-farm slaughter, New Brunswick production of mutton and lamb is calculated in Table 34. Most of this production is, however, shipped outside the province with New Zealand imports being consumed locally.

TABLE 30

SHEEP AND LAMBS

NEW BRUNSWICK BALANCE SHEET

	1981	1980	1979	1978
Beginning Inventory	8,700	8,000	7,500	7,000
Lambs Born	9,700	9,500	7,900	7,200
International Imports	100	-	-	-
Total Supply	18,500	17,500	15,400	14,200
Loss (death)	1,300	1,400	1,400	1,100
Disposal:	8,700	7,400	6,000	5,600
Killed & Consumed[1]	300	300	300	300
Killed On Farm & Sold[1]	1,700	600	300	900
Commercial Marketings[2]	2,900	2,000	1,700	500
Local Slaughter[3]	1,300	800	1,700	900
Not Accounted For[4]	2,500	3,700	2,000	3,000
Loss & Disposal	10,000	8,800	7,400	6,700
End Inventory	8,500	8,700	8,000	7,500

... Cont'd

TABLE 30 CONTINUED

	1977	1976	1975	1974
Beginning Inventory	7,300	7,500	7,900	-
Lambs Born	6,800	7,100	7,800	-
International Imports	-	-	-	-
Total Supply	14,100	14,600	15,700	-
Loss (death)	1,400	1,600	1,800	-
Disposal:	5,700	5,700	6,400	-
Killed & Consumed[1]	300	300	300	-
Killed On Farm & Sold[1]	1,500	1,200	1,250	-
Commercial Marketings[2]	600	700	1,700	-
Local Slaughter[3]	1,500	1,200	850	-
Not Accounted For[4]	1,800	2,300	2,300	-
Loss & Disposal	7,100	7,300	8,200	-
End Inventory	7,000	7,300	7,500	-

[1] See Hogs Balance Sheet (Page 59)

[2] See Hogs Balance Sheet (Page 59)

[3] See Hogs Balance Sheet (Page 59)

[4] Residual which may be out-of-province movements or inventory level problems

Source: Statistics Canada, Truro Office

TABLE 31
NEW BRUNSWICK LAMB, CULL SHEEP MARKETINGS

YEAR	NUMBER OF LAMBS	NUMBER OF SHEEP	TOTAL
1981	2,218	417	2,635
1980	3,757	340	4,097
1979	3,102	312	3,414
1978	4,343	382	4,725
1977	2,565	260	2,825
1976	2,232	N/A	2,232

Source: New Brunswick Sheep Breeders Feedlot & Marketing Co-Op Ltd.

TABLE 32

TOTAL MARKETINGS OF SHEEP & LAMBS
ORIGIN NEW BRUNSWICK

YEAR	MARKETINGS	DIRECT EXPORT
1981	2,844	23
1980	3,982	-
1979	2,185	-
1978	569	-
1977	657	5
1976	739	-

Source: Livestock Market Review, Agriculture Canada

TABLE 33

SHEEP AND LAMBS SLAUGHTERED IN INSPECTED ESTABLISHMENTS IN ATLANTIC PROVINCES OF NEW BRUNSWICK ORIGIN

YEAR	
1981	153
1980	0
1979	353
1978	138
1977	132
1976	503

Source: Agriculture Canada

TABLE 34

NEW BRUNSWICK LAMB & MUTTON PRODUCTION (LBS COLD DRESSED WEIGHT)

YEAR	TOTAL PRODUCTION
1981	228,189
1980	220,071
1979	226,897
1978	265,056
1977	237,870
1976	202,112

Source: Spatial Planning Calculations based upon total marketing of Sheep and Lambs from New Brunswick Sheep Breeders Feedlot and Market Co-op Ltd. and Statistics Canada estimates for local and on-farm slaughter

Field Crops

Potatoes:

A great deal of information is available on the potato production in New Brunswick and the disposition of this crop both locally and in foreign markets. Details on movement of American potatoes into New Brunswick for use in New Brunswick and interprovincial movements are harder to obtain.

Statistics Canada produces information on production, exports from New Brunswick for table and seed, cullage and loss, seed for next crop and local use including processing. Agriculture Canada produces similar information but for crop year. The estimate of local use used in these figures is apparently based upon Canadian per capita consumption extended to the New Brunswick population. Accurate figures on processing only are confidential.

Information on international movements of table potatoes into New Brunswick was sought from the New Brunswick Potato Agency and wholesalers. The potato agency has no record of movement into New Brunswick.

The survey results indicated annual movement of approximately 3,233,000 pounds of potatoes into New Brunswick from Virginia, Florida, California and other American states.

Interprovincial movement of table potatoes from Prince Edward Island into New Brunswick were obtained from the P.E.I. Potato Marketing Board as well as from Agriculture Canada. Approximately 17,472,000 pounds of potatoes move into New Brunswick from Prince Edward Island in the 80/81 crop year. It has been estimated by Agriculture Canada that Prince Edward Island accounts for 95% of potato movements into New Brunswick from other provinces. The only record of movement from other

provinces to New Brunswick is the Saint John Unload reports.

The transportation statistics provided some useful historical rail information, however, most potato movements are now by truck. The C.T.C. survey provides estimates of movement but given the problems evidenced with other commodities, the validity of these estimates may be in question.

Based upon the Agriculture Canada unload reports for Saint John, the majority of potatoes arrive by truck from P.E.I. and from May - August from the United States (California, Florida, Virginia and Washington). Without accurate figures on processing, no consumption calculations can be completed for potatoes. The quantity of potatoes moving into New Brunswick based upon our survey, however, is valuable information.

TABLE 35

NEW BRUNSWICK POTATO PRODUCTION

	1980	1979	1978	1977	1976
Acres	52,000	56,000	58,000	57,000	55,500
Average Yield per Acre Cwts.	222.9	232.4	211.0	194.6	200.8
Production '000 Cwts.	11,589	13,016	12,236	11,093	11,143

Source: Statistics Canada

TABLE 36

DISPOSITION OF POTATOES - NEW BRUNSWICK

	1980	1979	1978	1977	1976
Shipments:					
Table	1,827,700	1,372,300	1,815,500	1,237,100	2,328,000
Seed	1,523,300	1,455,900	1,164,900	1,302,000	1,467,000
Local Use Seed & Processing	5,875,200	7,079,400	7,839,700	7,447,100	6,162,000
Cullage & Loss	2,362,800	3,030,600	1,415,900	1,106,800	1,186,000
Total	11,589,000	13,016,200	12,236,000	11,093,000	11,143,000

Source: Statistics Canada

TABLE 37

NEW BRUNSWICK TABLE & SEED POTATO IMPORTS
FROM PRINCE EDWARD ISLAND*

	'000 Cwt.
1981 - 1982	250.5
1980 - 1981	208.5
1979 - 1980	271.2
1978 - 1979	299.3

* Minimal Seed Movement

Source: P.E.I. Potato Marketing Board

TABLE 38

NEW BRUNSWICK POTATO IMPORTS
(cwt)

	P.E.I.
80/81	174,723
79/80	211,838
78/79	233,182
77/78	155,774
76/77	N/A

Source: Agriculture Canada

TABLE 39

NEW BRUNSWICK POTATO DISPOSITION
(cwt)

	81/80	80/79	79/78	78/77	77/76
Table Shipments	1,822,229	1,359,638	1,886,741	1,237,070	2,327,926
Seed Shipments	1,463,476	1,453,687	1,164,869	1,302,045	1,466,479
Cull & Loss	2,101,810[1]	2,712,753[1]	1,415,698	1,191,908	1,186,280
Local Use & Processing	5,325,793[2]	6,659,922[2]	6,885,945	6,653,370	5,435,828
Seed For Next Crop	875,000	875,000	882,535	729,184	726,089
Total[3]	11,589,000	13,061,000	12,236,000	11,114,000	11,143,000

[1] Includes local use also

[2] Processing only based upon the residual calculated by Spatial Planning Inc.

[3] Rounded to nearest thousand

Source: Agriculture Canada

TABLE 40

POTATOES
EXPORTS BY PROVINCE OF LADING AND IMPORTS
BY PROVINCE OF CLEARANCE
(lbs)

DOMESTIC EXPORT:

	1981	1980	1979	1978	1977	1976
Seed	130,109,377	109,034,729	103,943,246	N/A	N/A	N/A
Fresh (Nes)	78,830,100	49,593,936	46,420,710	N/A	N/A	N/A
Frozen Potato Products	19,685,380	25,983,485	17,014,175	N/A	N/A	N/A
Canned	90,000	-	-	N/A	N/A	N/A

DOMESTIC IMPORTS:

	1981	1980	1979	1978	1977	1976
Seed	1,392,700	2,048,000	722,000	6,546,100	12,812,200	4,251,140
Fresh (Nes)	23,205,100	13,651,600	15,834,500	14,513,800	129,681,000	57,533,009
Potato Products Frozen	3,281	36,750	614,018	1,313,782	3,793,482	5,869,108
Dried NES	-	-	260	33,275	40,000	44,558
Instant Mashed	-	-	-	42,630	134,300	125,000

Source: Statistics Canada, External Trade Computer Printouts

TABLE 41

ORIGIN AND DESTINATION OF POTATO SHIPMENTS BY RAIL (Tons)

To New Brunswick

	1980	1979	1978	1977	1976
From:					
P.E.I.		56	282	558	5,073
N.S.				925	28
N.B.		28	28	349	5,747
Que.			84		230
Ont.	29	302	9,133		28
Man.	-	-	-	-	-
Sask.	-	-	-	-	-
Alberta	-	-	-	-	-
B.C.	315	1,192	1,733	24,733	2,822
U.S.				111	80
Maine					
Total	344	2,576	11,260	26,760	12,008

... Cont'd

TABLE 41 CONTINUED

From New Brunswick

	1980	1979	1978	1977	1976
To:					
P.E.I.			30	101	30
N.S.				157	2,175
N.B.		998		925	3,747
Que.	1,617	4,700	10,128	20,247	31,669
Ont.	2,175	4,193	5,567	9,497	15,382
Man.					30
Sask.	-	-	-	-	-
Alberta					29
B.C.	-	-	-	-	-
U.S.				25	30
Maine	181	254	11,933	3,440	50,728
NFLD		24	198	936	2,015
Total	3,973	10,189	27,856	65,898	105,805

Source: Statistics Canada Railway Origin & Destination Microfiche

Rutabagas:

Production of rutabagas in New Brunswick is well established. Most rutabaga production is used within the province with imports occurring primarily from Prince Edward Island, Quebec and Ontario.

Unload reports for Saint John indicate a relatively stable proportion of New Brunswick rutabagas unloaded on that market over the past few years. Most of the movement occurs during the June - August period when limited New Brunswick turnips are available.

No substantial quantities of rutabagas are exported from New Brunswick despite the high external trade figures which do not indicate origin. The majority of these exports apparently originate in Prince Edward Island destined for the Boston market.

Transportation information for this commodity is not available.

The wholesaler survey provided the following information: 45,865 pounds of rutabagas are imported into New Brunswick. Using this import information and assuming that there are no significant quantities of rutabagas exported or used for seed or manufacturing, the New Brunswick per capita consumption was calculated for 1980 to be 8.49 lb/capita.

TABLE 42

PRODUCTION OF RUTABAGAS - NEW BRUNSWICK

	1980	1979	1978	1977	1976
Acreage	360	370	350	330	300
Yield/Ac. (Bu)	9.50	11.00	8.50	7.20	10.00
Production ('000 tons)	3.4	4.1	3.0	2.4	3.0

Source: Statistics Canada

TABLE 43

RUTABAGAS - UNLOAD OF DOMESTIC & IMPORTED FRUITS & VEGETABLES
(UNITS = '000 LBS)

SAINT JOHN:

Domestic	1980	1979	1978	1977	1976
P.E.I.	3	60	34	-	1
N.B.	477	642	488	-	739
Que.	40	4	19	-	11
Total	531	731	549	-	751
Imported					
Florida	1	6	-	-	-
N. Carolina	-	1	-	-	-
Virginia	-	8	-	-	-
Total	1	15	-	-	-

Source: Annual Unload Report Fresh Fruits & Vegetables
Agriculture Canada

TABLE 44

RUTABAGAS
EXPORTS BY PROVINCE OF LADING & IMPORTS
BY PROVINCE OF CLEARANCE
(UNITS = LBS)

	1981	1980	1979	1978	1977	1976
New Brunswick Domestic Exports:						
Fresh Rutabagas	1,088,842	1,165,930	1,665,356	N/A	N/A	N/A
New Brunswick Domestic Imports:						
Rutabagas	-	-	-	-	-	-

Source: Statistics Canada, External Trade Computer Print-Outs

TABLE 45
RUTABAGA BALANCE SHEET 1980

Production[1]	6,800,000 lb
Imports[2]	45,865 lb
Gross Supply	6,845,865 lb
Exports	- lb
Net Supply	6,845,865 lb
Seed	-
Manufacturing	- lb
Food Gross	6,845,865 lb
Waste	933,527 lb
Net Food	5,912,338 lb
Population	696,200
Per Capita Consumption	8.49 lb

1 Statistics Canada
2 Wholesaler Survey

Source: Spatial Planning Inc. calculations.

Fruits

New Brunswick production figures are available for the following fruits and berries: apples, strawberries, raspberries, and blueberries. Limited information was available from any of the statistical sources for these commodities with the exception of apples. The wholesalers survey, however, did provide some information regarding the movement of all these products into New Brunswick.

Transportation sources provided annual rail information for apples by origin and destination. Quantities shipped by rail have decreased over the last 5 years. Based upon unloads of apples in Saint John as reported by Agriculture Canada, it is apparent that only about 10% of apples moved into New Brunswick from Canadian points move by rail. The C.T.C. truck survey data available for apples and strawberries resulted in unreasonable estimates of movements of these commodities.

Apples do move into New Brunswick from Nova Scotia and out of Nova Scotia and Prince Edward Island. Strawberries move into New Brunswick from Prince Edward Island and Quebec.

In order for apples to move from province to province they must be inspected. Information is, however, not compiled on this movement from New Brunswick regularly. During the 80/81 crop year, the Agriculture Canada Moncton office attempted to compile information from "y" releases regarding apple movement out of the province for processing, revealing that approximately 50,135 bushels or 2,105,670 pounds went to processing. Industry representatives felt this was reduced somewhat from previous years. Agriculture Canada reported movement to fresh markets outside New Brunswick would account for an insignificant part of the apple crop.

The actual quantity of apple movement from Nova Scotia into New Brunswick was obtained from

Agriculture Canada Food Inspection Office in Kentville. For the 80/81 crop year, 60,369 bushels or 2,535,498 pounds of apples were transported from Nova Scotia to New Brunswick. This movement has been fairly constant over the last few years. Figures for previous years may be available but were not accessible by our contact by the time of printing. Statistics are not generally compiled by province of destination but can be obtained from the inspection office.

External trade data provided information on international blueberry, strawberry and apple imports and exports, however, this information was not available by origin and destination. Exports of apples originating in New Brunswick are, however, small as evidenced by Agriculture Canada export data. Imports of strawberries based upon the wholesaler survey are estimated to be 214,300 pounds and come primarily from California and Mexico. Very limited quantities of blueberries are imported.

Since data regarding interprovincial movement of fruits was only available for apples from secondary sources, a survey of wholesalers was conducted. This survey resulted in an estimate of total imports both from other provinces and foreign countries destined for New Brunswick. Apples are purchased on a world market with many of the imports accounted for by products which cannot be grown in New Brunswick such as delicious apples from British Columbia and Granny Smith from New Zealand.

Approximately 95% of the blueberry crop goes to processing mainly frozen. Very few blueberries are handled for the fresh market. The majority of raspberry production (95%) is grown as U-Pick. Strawberries grown are approximately 65% for U-Pick purposes.

Calculations of New Brunswick per capita consumption and self-sufficiency can be completed if the following assumptions are made:

1. The wholesaler survey produced realistic estimates of annual imports.

2. No significant quantities of fruits are moved out of New Brunswick other than the apple movements reported by Agriculture Canada. Note that blueberry exports are included in the processing figure.

3. Ninety five percent of blueberries are used in processing (including Nova Scotia and Maine) but no significant quantities of New Brunswick produced strawberries or raspberries are used in processing.

Calculations were only completed for 1980 and are only an approximation of the total consumption and self-sufficiency.

Based on this analysis, there appears to be a shortfall in apple and strawberry production. This information would then justify a closer

examination of market for these two crops to check on seasonality, consumer preferences for varieties not produced in the province, etc.

TABLE 46
APPLE PRODUCTION IN NEW BRUNSWICK

YEAR	PRODUCTION ('000 BU)	PRODUCTION ('000 LBS)
1980	280	11,760
1979	310	13,000
1978	300	12,600
1977	250	10,500
1976	280	11,760

Note: Apples, 42 lbs = 1 Bushel

Source: Statistics Canada

TABLE 47

UNLOADS OF DOMESTIC AND IMPORTED APPLES
('000 LBS)

SAINT JOHN: DOMESTIC

	1980	1979	1978	1977	1976
Nova Scotia					
Rail					
Truck	503	319	236		977
New Brunswick					
Rail					
Truck	572	418	458		1,033
Quebec					
Rail					
Truck	33	5	34		137
Ontario					
Rail					
Truck			5		7
British Columbia					
Rail			69		828
Truck	116	145	77		62
Total					
Rail			69		828
Truck	1,224	887	810		2,216

... Cont'd

TABLE 47 CONT'D

SAINT JOHN: IMPORTED (All by Truck) '000 LBS

	1980	1979	1978	1977	1976
Georgia	-	2	-		
Maine	2	-	5		98
New Jersey	3	29	7		19
New York	78	56	47		71
North Carolina	8	6	18		-
South Carolina	-		6		-
Washington	104	108	87		494
Massachu-setts	-	7			126
Chile	5	31			-
France	34	11	1		2
New Zealand	13	27	32		70
S. Africa	40	48	9		74
Total	293	325	212		954

Source: Unloads of Domestic & Imported Fruits & Vegetables, Agriculture Canada

TABLE 48

APPLES
EXPORTS BY PROVINCE OF LADING & IMPORTS
BY PROVINCE OF CLEARANCE (LBS)

NEW BRUNSWICK DOMESTIC EXPORTS

	1981	1980	1979	1978
Fresh Apples & Crab Apples	855,100	450,750	1,001,346	N/A
Apple Juice Not Concentrated	48,000	-	61,709	N/A
Apple Juice Concentrated	450	7,786	-	N/A
Apples Canned Including Apple Sauce	21,600	-	128,250	N/A

NEW BRUNSWICK DOMESTIC IMPORTS

Fresh Apples & Crab Apples	8,094,064	6,211,319	7,203,940	6,870,016
Dried Apples	295	731	48,729	646
Apple Juice Concentrates Not Frozen	1,476,984	39,286	-	-
Canned Apples	-	153,560	-	-

... Cont'd

TABLE 48 CONTINUED

NEW BRUNSWICK DOMESTIC EXPORTS

	1977	1976
Fresh Apples & Crab Apples	N/A	N/A
Apple Juice Not Concentrated	N/A	N/A
Apple Juice Concentrated	N/A	N/A
Apples Canned Including Apple Sauce	N/A	N/A

NEW BRUNSWICK DOMESTIC IMPORTS

Fresh Apples & Crab Apples	7,973,230	10,813,467
Dried Apples	144	135
Apple Juice Concentrates Not Frozen	-	-
Canned Apples	-	800

Units=lbs

Source: Statistics Canada, External Trade Computer Print-Outs

TABLE 49

APPLES

EXPORTS ORIGIN NEW BRUNSWICK ('000 LBS)

Destination	80/81	79/80	78/79	77/78	76/77	75/76	74/75
U.S.A.			1,315	625		41	30
U.K.	-	-	-	-	-	-	-

Source: Agriculture Canada Crop & Seasonal Price Summaries

TABLE 50

RAIL ORIGIN & DESTINATION FOR APPLES

To New Brunswick:

From:	1980	1979	1978	1977	1976
B.C.	-	54	133	106	458
U.S.	-	-	-	-	133
Total	-	54	133	106	591

From New Brunswick:

To:	1980	1979	1978	1977	1976
NFLD	-	-	-	13	-
Total	-	-	-	-	-

Source: Statistics Canada Railway Origin & Destination microfiche

TABLE 51
BLUEBERRIES

NEW BRUNSWICK PRODUCTION ('000 LBS)

	1981	1980	1979	1978	1977	1976
Production						
lbs.	5,100	3,900	4,278	3,700	3,303	3,760
Metric Tonnes	2,550	1,950	2,139	1,678	1,449	1,706

Source: Statistics Canada

TABLE 52
BLUEBERRIES

EXPORTS BY PROVINCE OF LADING & IMPORTS
BY PROVINCE OF CLEARANCE
(UNITS = LBS)

NEW BRUNSWICK DOMESTIC EXPORTS:

	1981	1980	1979	1978
Fresh	2,544,048	1,853,673	2,825,990	N/A
Frozen	392,458	123,245	327,079	N/A

NEW BRUNSWICK DOMESTIC IMPORTS:

Fresh (All U.S.A.)	1,440,833	509,607	112,624	257,890

NEW BRUNSWICK DOMESTIC EXPORTS:

	1977	1976
Fresh	N/A	N/A
Frozen	N/A	N/A

NEW BRUNSWICK DOMESTIC IMPORTS:

Fresh (All U.S.A.)	381,405	774,104

Source: Statistics Canada, External Trade Computer Printouts

TABLE 53
NEW BRUNSWICK STRAWBERRY PRODUCTION

	1981	1980	1979	1978	1977	1976
Production ('000 qt.)	1,460	1,870	1,260	1,800	900	1,450
Production ('000 lb)	1,825	2,337.5	1,575	2,250	1,125	1,812.5

1 qt = 1¼lbs

Source: Statistics Canada

TABLE 54
STRAWBERRIES

EXPORTS BY PROVINCE OF LADING & IMPORTS
BY PROVINCE OF CLEARANCE
(UNITS = LBS)

NEW BRUNSWICK DOMESTIC EXPORT:

1981	1980	1979	1978	1977	1976
-	-	-	N/A	N/A	N/A

NEW BRUNSWICK DOMESTIC IMPORTS:

Fresh	560,446	451,351	738,638	705,066	637,940	445,468
Frozen	243,946	276,750	1,002,098	1,161,060	952,110	1,003,840

Source: Statistics Canada, External Trade Computer Printouts

TABLE 55
NEW BRUNSWICK RASPBERRY PRODUCTION

	1981	1980	1979	1978	1977	1976
Production ('000 qt)	42	40	30	30	15	32
1,000 lb.	52.5	50	37.5	37.5	18.8	40

Source: Statistics Canada

TABLE 56
RASPBERRY EXPORTS BY PROVINCE OF LADING
AND IMPORTS BY PROVINCE OF CLEARANCE
(UNITS - LBS)

DOMESTIC EXPORTS:

	1981	1980	1979	1978	1977	1976
Raspberries	-	1,005	-	N/A	N/A	N/A

DOMESTIC IMPORTS:

	-	-	-	-	-	-

Source: Statistics Canada, External Trade Computer Printouts

TABLE 57
ESTIMATED ANNUAL FRUIT MOVEMENT DESTINED INTO NEW BRUNSWICK
THROUGH WHOLESALE DISTRIBUTORS
(lbs)

Apples	1,714,300
Strawberries	214,300
Blueberries	500
Raspberries	-

Source: Spatial Planning Survey

TABLE 58

1980 (lbs)

	APPLES	STRAW-BERRIES	RASP-BERRIES	BLUE-BERRIES
Production	11,760,000[1]	2,337,500[1]	50,000[1]	3,900,000[1]
Imports	1,563,900[2]	214,300[2]	-[2]	500[2]
	2,535,500[3]	-	-	-
Gross Supply	15,859,400	2,551,800	50,000	3,900,500
Exports	-	-	-	-*
Net Supply	15,859,400	2,551,800	50,000	3,900,500
Seed	-	-	-	-
Manufacturing	2,315,700[4]	-	-	-
Food	13,543,700	2,551,800	50,000	195,500
Gross Waste	564,321[5]	204,144[5]	4,000[5]	5,865[5]
Net Food	12,979,379	2,347,656	46,000	189,635
Popula-	696,200	696,200	696,200	696,200
Per Capita Consumption	18.64	3.37	0.07	0.27
Self-Sufficiency Production / Gross Food	86.9%	91.6%	100%	1994.9%

* Included in manufacturing figure
1 Statistics Canada
2 Wholesaler Survey, Spatial Planning Inc.
3 Nova Scotia imports, Agriculture Canada, Food Inspection Branch, Kentville, Nova Scotia
4 Agriculture Canada, Y releases completed in Moncton Office

and estimates by Statistics Canada, Agriculture Statistician

5 Based upon Statistics Canada waste factors

Source: Spatial Planning Inc.

Vegetables

Secondary information obtained for vegetables does not lend itself for use to calculate consumption figures using the residual approach, however, with the addition of some survey information, some consumption approximations can be made.

Production information is available from Statistics Canada for fresh beans, beets, cabbage, carrots, cauliflower, fresh corn, lettuce, parsnips and fresh tomatoes. These statistics do not include production for the processing market. Cucumber production figures are also available but these do include acreages going to pickling.

Information on interprovincial flow is negligible from secondary sources. While unloads on the Saint John market are available indicating origin and seasonality of imports, no complete quantitative information for the province could be obtained either from transportation sources,

commodity specialists or associations. Rail origin and destination information available for cabbage, carrots, lettuce, tomatoes, vegetables not elsewhere specified (n.e.s.) fresh or chilled, and vegetables and preparations nes., indicates few if any rail shipments in or out of New Brunswick. This rail information is of little value.

Truck movement data is available from the 1977 C.T.C. survey for tomatoes, cauliflower, beans and peas, cabbage and carrots. The figures resulting from this survey do not seem reasonable and therefore are not presented. Origin and destination information from this survey is, however, valuable. The 1977 vegetable imports to New Brunswick by origin included fresh carrots, cabbage, beans or peas, tomatoes and cucumbers from Nova Scotia. Movement of produce out of New Brunswick included cabbage and cauliflower, to Newfoundland, and tomatoes to Nova Scotia and Prince Edward Island.

External trade data was available for corn, cucumber, tomatoes, lettuce, cabbage, beans, cauliflower and carrots but without more information on interprovincial truck movements, this information is of no use for examining the net situation for New Brunswick.

The wholesaler survey indicated that local vegetables are purchased almost exclusively when in season. Most fresh vegetables, however, are available only for about four weeks. Carrots, parsnips and cabbages can be stored for a substantial period of time. Local carrots last until the end of February, then break down quickly. New Brunswick cabbages are available till mid-March. By this time local cabbage cannot compete with the better quality fresh produce available from the United States.

As indicated by the Saint John unload reports and the wholesaler survey, after the local vegetable season most vegetables imported into New Brunswick

come from Quebec and Ontario followed by produce from California, Florida and Mexico. The wholesaler survey provided the basis for estimates of vegetable imports into New Brunswick presented in Table 59.

Residual calculations for the following fresh vegetables have been completed for 1980: carrots, beets, tomatoes, lettuce, beans, cabbage, corn and cauliflower. The assumptions that must be made are:

1. The wholesaler survey produced realistic estimates of annual imports.

2. No significant quantities of vegetables are moved out of New Brunswick.

Based upon this analysis, fresh carrots, tomatoes, lettuce and cabbage have significant deficits in production. Fresh beans, corn and cauliflower appear to be in a deficit position as well but not

as significant. These estimates of self-sufficiency indicate the crops which should be further studied to see if in fact potential for development exists or if maximum production levels have been reached given seasonality of production, ability to store crop, price differentials between imported and local products, consumer preference, etc.

TABLE 59

ESTIMATED ANNUAL VEGETABLE MOVEMENT INTO NEW BRUNSWICK THROUGH WHOLESALE DISTRIBUTORS
(lbs)

Carrots	4,812,000
Tomatoes	6,000,000
Cucumbers	2,466,200
Lettuce	7,654,100
Beans	51,900
Cabbage	3,127,800
Corn	121,500
Cauliflower	71,000
Beets	3,800

Source: Spatial Planning Inc. Survey

TABLE 60

RESIDUAL CALCULATION FOR VEGETABLES
1980

	Carrots	Beets	Tomatoes	Lettuce
Production	3,500,000[1]	910,000[1]	770,000[1]	385,000[1]
Imports	4,812,000[2]	3,800[2]	6,000,000[2]	7,654,100[2]
Gross	8,312,000	913,800	6,770,000	8,039,100
Exports	-	-	-	-
Net	8,312,000	913,800	6,770,000	8,039,100
Seed	-	-	-	-
Manufacturing	-	-	-	-
Food Gross	8,312,000	913,800	6,770,000	8,039,100
Waste	249,360[3]	63,966[3]	1,015,500[3]	562,737[3]
Net Food	8,062,640	849,834	5,754,500	7,476,363
Per Capita	11.58	1.22	8.26	10.74
Self-Sufficiency (Production) (Food Gross)	42.1%	99.6%	11.4%	4.8%

. . . Cont'd

TABLE 60 CONTINUED

	Beans	Cabbage	Corn	Cauliflower
Production	252,000[1]	4,640,000[1]	1,134,000[1]	936,000[1]
Imports	51,900[2]	3,127,800[2]	121,500[2]	71,000[2]
Gross	303,900	7,767,800	1,255,500	1,007,000
Exports	-	-	-	-
Net	303,900	7,767,800	1,255,500	1,007,000
Seed	-	-	-	-
Manufacturing	-	-	-	-
Food	303,900	7,767,800	1,255,500	1,007,000
Gross Waste	18,234[3]	543,746[3]	100,440[3]	80,560[3]
Net Food	285,666	7,224,054	1,155,060	926,440
Per Capita	0.41	10.38	1.66	1.33
Self Sufficiency	82.9%	64.2%	90.3%	92.9%

[1] Statistics Canada

[2] Wholesaler survey by Spatial Planning Inc.

[3] Based upon waste factors provided by Statistics Canada

Source: Spatial Planning Inc. Calculations

TABLE 61

SELECTED VEGETABLE PRODUCTION
NEW BRUNSWICK
('000 LBS)

	1981	1980	1979	1978	1977	1976
Beans (fresh)	-	252	217	150	135	102
Beets	397	910	312	402	330	292
Cabbage	273	4,640	5,075	5,184	2,970	3,960
Carrots	4,580	3,500	3,852	3,002	2,790	2,392
Cauli-flower	2,844	936	998	728	480	427
Corn (Fresh)	1,901	1,134	1,000	1,189	1,014	1,596
Cucumbers Fresh & Processing	612	780	748	371	314	518
Lettuce	315	385	496	413	258	455
Parsnips	152	525	432	384	282	400
Tomatoes Fresh & Processing	647	770	650	490	378	682

Source: Statistics Canada

DAIRY PRODUCTS

The research into New Brunswick dairy products included fluid milk, butter, cheddar cheese and ice cream. Production and trade movements of milk are well recorded, however, details regarding the other products have been difficult to obtain.

Milk for fluid use produced in New Brunswick has over the 1976-80 period provided virtually all requirements for fluid milk in the province. In 1976 and 1978, very small amounts of fluid milk were imported into the province, accounting for less than ½% of total production.

Production information is available from both Statistics Canada and the New Brunswick Milk Marketing Board. Slight differences occur between figures from these two sources due to slight differences in reporting periods for fluid milk. Differences in industrial milk production statistics are apparently due to difference in

reporting procedures used by the Milk Marketing Board in reporting to Statistics Canada and their own statistics.

Production statistics for the various forms of drinking milk and creams were provided by the New Brunswick Dairy Commission. The Milk Marketing Board also provided information on movement of fluid milk into the province. They reported no exports of fluid milk over the 1976-80 period although an Agriculture Canada paper (Interprovincial Barriers to Trade in Agricultural Products, Elmer L. Menzie, Economic Working Papers, Agriculture Canada) reported some fluid milk exported from New Brunswick to Quebec and Prince Edward in 1978. A substantial quantity of industrial milk is exported from New Brunswick annually with the percentage of total milk production exported increasing each year.

Checks of transportation information did not provide sufficient information to verify milk movements.

Calculations of per capita consumption were completed for drinking milk based upon the assumption that no exports or imports occur.

Butter production information is available for New Brunswick from Statistics Canada. The only source of trade flow data indicating butter movement was the Statistics Canada rail origin and destination study. Movement by truck, however, does occur but no grasp of the quantities could be obtained from the Canadian Transport Commission truck survey. Our survey of wholesalers and discussions with industry representatives indicate movement of butter into New Brunswick from Quebec through the food chains.

The quantity of cheese produced within New Brunswick is confidential due to the small number

of processors. Cheddar cheese is one product which is exported to Nova Scotia and Prince Edward Island but no information on quantities could be obtained.

While it is recognized that much cheese is imported into New Brunswick, truck information does not provide a breakdown of dairy products. Rail data does provide some very limited information on cheese movements.

All ice cream sold within New Brunswick is not produced within the provincial borders. Although we realize that imports such as "Sealtest" from Prince Edward Island are common. It has been impossible to quantify ice cream movement.

The lack of quantifiable information on movements of dairy products makes it impossible to calculate any provincial consumption figures for New Brunswick.

TABLE 62
FARM SALES OF MILK AND CREAM
AND UTILIZATION OF SALES
(UNITS = KILOLITRES)

	1980	1979	1978	1977	1976
Fluid Sales	70,496	68,961	67,415	64,726	62,705
Industrial	46,978	40,734	36,461	34,353	31,917
Total	117,474	109,695	103,876	99,079	94,622
Utilization of Whole Milk:					
% Fluid	60	63.0	64.9	66.8	66.3
% Industrial	40	37.0	35.1	32.2	33.7
Total	100%	100%	100%	100%	100%

Source: Statistics Canada

TABLE 63
NEW BRUNSWICK MILK SALES
(LITRES)

	1981	1980	1979
Fluid Sales	69,729,216	70,495,194	68,961,748
Imported (1)			
Industrial Sales, N.B.(1)	11,445,249	11,138,680	9,536,681
Industrial Sales Exported (1)	33,083,607	26,189,389	20,712,910
Total Industrial	44,528,856	37,328,069	30,249,591
TOTAL PRODUCTION*	114,803,969	108,256,718	99,385,891

... Cont'd

* Total not equal total of fluid and industrial due to shrinkage

TABLE 63 CONTINUED

	1978	1977	1976
Fluid Sales (1)	67,402,682	64,569,494	62,529,057
Imported (1)	25,920		133,618
Industrial Sales, N.B.(1)	8,227,121	8,064,236	7,043,065
Industrial Sales Exported (1)	16,865,231	14,652,685	13,178,263
Total Industrial	25,092,352	22,716,921	20,221,328
TOTAL PRODUCTION*	92,921,999	87,383,768	82,655,738

* Total not equal total of fluid and industrial due to shrinkage

Source: New Brunswick Milk Marketing Board

TABLE 64
PRODUCTION OF CREAMERY BUTTER
IN NEW BRUNSWICK

	1980	1979	1978	1977	1976
Tonnes:	791	898	873	923	904

Source: Statistics Canada

TABLE 65
PRODUCTION OF CHEDDAR CHEESE
IN THE MARITIMES

	1980	1979	1978	1977	1976
Production (Metric Tonne)	5,566	5,213	3,926	3,536	3,059

Source: Statistics Canada

TABLE 66
PRODUCTION OF ICE CREAM
IN NEW BRUNSWICK
(UNITS IN KILOLITRES)

	1980	1979	1978	1977	1976
Production	7,538	8,206	8,403	9,059	9,397

Source: Statistics Canada

TABLE 67

PRODUCTION OF DRINKING MILK AND CREAMS IN NEW BRUNSWICK ('000 l)

	82/81	81/80	80/79	79/78	78/77	77/76
Whole	37,165	38,244	38,486	39,030	39,689	40,797
2%	25,403	25,108	23,493	22,169	19,504	16,727
Skim	2,992	3,098	3,098	2,976	2,819	2,662
Butter	214	230	253	249	229	215
Choco-late	3,217	3,233	3,109	2,895	2,562	2,461
Super 2	16	304	-	-	-	-
Cereal Cream	1,000	1,030	937	786	796	785
Coffee	144	80	48	23	18	18
Whipped	184	203	173	187	211	234

Note: Dairy Year- April 1 to March 31

Source: New Brunswick Dairy Products Commission

TABLE 68
DAIRY PRODUCTS

EXPORTS BY PROVINCE OF LADING & IMPORTS
BY PROVINCE OF CLEARANCE
(UNITS = CWT)

NEW BRUNSWICK DOMESTIC EXPORTS:

	1981	1980	1979	1978
Whole Milk Powder	397	-	-	N/A
Skim Milk Powder	16,789	113,047	212,625	N/A
Milk, Cream, By Prcducts Powdered NES	170,705	70,728	63,396	N/A
Evaporated Milk	1,206	102	45,451	N/A
Dairy Products NES	-	392	373	N/A
NEW BRUNSWICK DOMESTIC IMPORTS:				
Gouda Cheese	-	351	740	197
Cheese NES	3,258	2,167	2,597	2,883
Provolone Cheese	-	-	-	265
Gryrere Process Cheese	-	-	-	463
Milk, Cream& By Product Powdered	3,418	16,745	12,304	1,356

. . . Cont'd

TABLE 68 CONT'D

	1981	1980	1979	1978
Milk, Cream & By Product, Condensed Evaporated	-	-	2	-
Dairy Product NES	1	37	17	-

NEW BRUNSWICK DOMESTIC EXPORTS:

	1977	1976
Whole Milk Powder	N/A	N/A
Skim Milk Powder	N/A	N/A
Milk, Cream & By Products, Powdered NES	N/A	N/A
Evaporated Milk	N/A	N/A
Dairy Products NES	N/A	N/A

NEW BRUNSWICK DOMESTIC IMPORTS:

Gouda Cheese	-	-
Cheese NES	2,190	1,432
Provolone Cheese	132	-
Gryrere Process Cheese	-	-
Milk, Cream & By-Product Powdered	-	53

. . . Cont'd

TABLE 68 CONT'D

	1977	1976
Milk, Cream & By Product, Condensed Evaporated	-	-
Dairy Product NES	-	-

Source: Statistics Canada, External Trade Computer Print-Outs

TABLE 69
NEW BRUNSWICK APPARENT PER CAPITA CONSUMPTION OF SKIM MILK (KILOLITRES)

	82/81	81/80	80/79	79/78	78/77	76/77
Production	2,992	3,098	3,098	2,967	2,819	2,662
Imports	-	-	-	-	-	-
Gross Supply	2,992	3,098	3,098	2,967	2,819	2,662
Exports	-	-	-	-	-	-
Net Supply	2,992	3,098	3,098	2,967	2,819	2,662
Seed	-	-	-	-	-	-
Manufacturing	-	-	-	-	-	-
Food Gross	2,992	3,098	3,098	2,976	2,819	2,662
Waste	-	-	-	-	-	-
Net Food	2,992	3,098	3,098	2,976	2,819	2,662
Population	696,403	696,200	696,600	684,100	684,200	677,250
Self Sufficiency	100%	100%	100%	100%	100%	100%
Consumption (l/yr)	4.30	4.45	4.47	4.35	4.12	3.93

Source: Spatial Planning Inc. calculations

TABLE 70
NEW BRUNSWICK APPARENT PER CAPITA CONSUMPTION OF 2% MILK (KILOLITRES)

	82/81	81/80	80/79	79/78	78/77	77/76
Production	25,403	25,108	23,493	22,169	19,504	16,727
Imports	-	-	-	-	-	-
Gross Supply	25,403	25,108	23,493	22,169	19,504	16,727
Exports	-	-	-	-	-	-
Net Supply	25,403	25,108	23,493	22,169	19,504	16,727
Seed	-	-	-	-	-	-
Manufacturing	-	-	-	-	-	-
Food	-	-	-	-	-	-
Gross Waste	25,403	25,108	23,493	22,169	19,504	16,727
Net Food	-	-	-	-	-	-
Population	25,403	25,108	23,493	22,169	19,504	16,727
	696,403	696,200	692,600	684,100	684,200	677,250
Self-Sufficiency	100%	100%	100%	100%	100%	100%
Consumption (l/yr)	36.48	36.06	33.92	32.41	28.51	24.70

Source: Spatial Planning Inc. calculations

TABLE 71

NEW BRUNSWICK APPARENT PER CAPITA CONSUMPTION OF WHOLE MILK (KILOLITRES)

	82/81	81/80	79/80	78/79	77/78	77/76
Production	37,165	38,244	38,486	39,030	39,689	40,797
Imports	-	-	-	-	-	-
Gross Supply	37,165	38,244	38,486	39,030	39,689	40,797
Exports	-	-	-	-	-	-
Net Supply	37,165	38,244	38,486	39,030	39,689	40,797
Seed	-	-	-	-	-	-
Manufacturing	-	-	-	-	-	-
Food Gross	37,165	38,244	38,486	39,030	39,689	40,797
Waste	-	-	-	-	-	-
Net Food	37,165	38,244	38,486	39,030	39,689	40,797
Population	696,403	696,200	692,600	684,100	684,200	677,250
Self-Sufficiency	100%	100%	100%	100%	100%	100%
Consumption (l/yr)	53.37	54.93	55.57	57.05	58.01	60.24

Source: Spatial Planning Inc. calculations

TABLE 72

RAIL ORIGIN & DESTINATION OF CHEESE

To New Brunswick: No Rail Movement

From New Brunswick:

To:	1980	1979	1978	1977	1976
Marine	-	-	32	152	-
Total	-	-	32	152	-

Source: Statistics Canada Railway Origin & Destination microfiche

TABLE 73

RAIL ORIGIN & DESTINATION OF BUTTER

To New Brunswick:

From:	1980	1979	1978	1977	1976
Quebec	-	-	-	-	-
Ontario	-	-	-	-	132
Total	-	-	-	-	132

From New Brunswick:

To:	1980	1979	1978	1977	1976
Quebec	-	285	-	-	216
Ontario	-	-	-	-	-
U.S.	-	30	-	-	-
Total	-	315	-	-	216

Source: Statistics Canada Railway Origin & Destination microfiche

EVALUATION OF THE RESIDUAL APPROACH

The use of the residual approach for calculating New Brunswick per capita consumption of agricultural commodities has been thoroughly investigated. A number of difficulties were encountered in the identification of secondary data to use in the balance sheet calculations and the collection of primary data to fill these gaps was attempted.

To successfully use the residual approach to calculate provincial consumption there must be information available on production, imports, exports, seed and processing, usage and waste. Production information was available for all the commodities examined in this report and sometimes from more than one source. Waste factors are available for all commodities. Seed usage is relevant only for a few commodities and this is available. The area of difficulty is in the

identification of import and export movements as well as quantity used in processing.

Movement of any commodity across provincial borders can theoretically be obtained from two sources: transporters or distributors. Published data for the transportation industry is complete for rail movements but only two surveys are available for truck movements. Statistics Canada "For Hire Trucking Survey" does not provide any valuable information for New Brunswick since the sample is too small. The "Canadian Transport Commission Trucking Survey" is based upon a sample of those trucking firms who carry goods that are included in the Atlantic Region transportation subsidy programs. The information from this survey seemed unreasonable for a number of commodities.

No information on origin and destination of commodities handled through the wholesale distribution network is yet available from

secondary sources. A Statistics Canada "Origin & Destination of Wholesale Merchandise" study is being tabulated at the present time, however, information which will be available from this survey later this year will be presented by Standard Industrial Classification and will not be directly applicable to the various commodities. An origin and destination study of manufacturers was completed in 1979. This information is also by S.I.C. so unusable in terms of specific commodities. (See Appendix)

For regulated commodities such as eggs and milk, import and export data by origin and destination are available through provincial and national marketing boards. The calculation of provincial per capita consumption, therefore, can be completed for these commodities. There is a notable lack of statistical information available from the numerous producer associations within the province. The existing bodies are a natural

starting point for the collection of data especially regarding export and processing quantities.

Since trade flow information could not be readily obtained through secondary sources for most other commodities, a small survey of wholesalers was undertaken in order to obtain some estimates of commodity movements. Wholesale distributors were chosen for the survey rather than transporters since they are fewer in number and were expected to be more cooperative than motor transport companies.

Information on the quantity of fresh fruits and vegetables by origin was obtained, however, interviewers experienced difficulty in obtaining information on red meat and poultry meat movement as well as dairy products.

It should be noted that the Annual Unload Report for Fresh Fruits and Vegetables on 12 Canadian markets includes information for the Saint John

market regarding the origin of these commodities. (See Appendix for 1980 information) While this should be representative of the origin of all fruits and vegetables entering New Brunswick it is difficult to determine the exact quantity of total imports which move into the province from this report alone.

Export movement of commodities is not easily obtained through central distributors. For example, vegetable exports to date are not organized through a marketing body but do occur on occasion. Producers/shippers would have to be individually contacted to obtain this information. In those cases for which we were unable to obtain secondary sources of export (interprovincial and international) the opinions of government and industry representatives were used to determine exports. In many cases it was assumed that exports accounted for an insignificant quantity of total production. Red meat, poultry meat and dairy product information is considered

confidential by the processing plants and therefore export and import information is almost impossible to obtain for these commodities.

The quantity of fruits and vegetables used in processing is considered confidential information in New Brunswick because of the limited number of processors. Since most vegetable production figures do not include processing acreage, this problem is not a significant barrier to consumption calculations for fresh products. Some estimations of fruit quantities going to processing were obtained. Potato production, however, does include processing acreage and neither the exact quantity sold to processing nor available for local use is obtainable.

By making certain assumptions about the various factors which must be included in the residual calculations, it is possible to calculate self-sufficiency and per capita consumption for eggs, milk, rutabagas, corn, cabbage, beans,

cauliflower, beets, tomatoes, lettuce, carrots, apples, strawberries, blueberries and raspberries. No calculations can be completed for red meats, poultry meat or processed dairy products.

Self-sufficiency figures obtained using this approach are only an approximation and the validity is difficult to ascertain. For the purpose of identifying commodities that are either in a surplus or deficit position, these approximations are adequate. Without a complete census of commodity movements, it will be difficult to produce figures in which one is completely confident.

For those products for which deficits are identified further study is then warranted. This should include but not be limited to such things as examination of seasonality of crop and exports, price difficulties between imported and exported product, trends in production and import, effect

of price, source and other characteristics such as freshness or consumer preference, etc.

APPLICATION AND EVALUATION OF QUEBEC APPROACH

In 1972, the Province of Quebec completed a study of consumption and self-sufficiency rate. This study examined:

- The importance of food expenditures of Quebeckers relative to other consumer expenditures.

- An analysis of the effect of income and price changes on the amount consumers spend on food and the volume of food they buy.

- Analysis of the distribution of the food budget and how this has changed.

- Analysis of self-sufficiency to measure the degree to which the agricultural industry has adapted to the needs of its consumers.

The methodology used throughout this Quebec study could be equally well applied to New Brunswick. The determination of provincial consumption and self-sufficiency only are of concern to New Brunswick at this time and the following approach is based upon that used in the Quebec study.

Apparent per Capita Food Consumption in Canada is published annually by Statistics Canada and provides Canadian agricultural product consumption data that are not broken down by region. Since the income, eating habits and cultural habits of New Brunswick residents differ from those of Canadians in general, the New Brunswick consumption structure can be expected to differ from that of Canada. To calculate a New Brunswick consumption structure, reference can be made to the federal surveys of food expenditure. The Quebec study used Statistics Canada's Family Food Expenditure in Canada, 1969 however no national study has been completed until the 1982 study currently underway. Information on New Brunswick

family food expenditure and quantity is available only for Saint John, New Brunswick and this information only for 1974 and 1978.

While the family expenditure information lacks the rural and small urban center population sample, it does provide an indication of differences between Canadian and New Brunswick consumption. The ratio between the Canadian and New Brunswick per person consumption by food volume yields a "New Brunswick - Canada coefficient" or the "taste factor" which is subsequently applied to the national data on apparent consumption of agricultural products. This yields the per capita consumption of agricultural products sold at retail in the province. Although family food expenditure survey data is available only for 1974 and 1978, we have assumed taste factors to be constant over the period between surveys. This will provide data which is more representative of New Brunswick than the unadjusted Canadian per capita consumption figure.

It must be recognized that change in consumption patterns due to relative change in prices may occur over this period between surveys. Another factor which is also significant is that taste factors are based upon family purchases and purchases by institutions and food service industry are not represented. One can only make the assumption in using these taste factors that these two sectors have similar preferences to those of family units.

Discussions with Mr. Harry Champion, Chief of Family Expenditure Section, Consumer Income & Expenditure Division, Statistics Canada, has indicated that the 1982 survey is a national survey incorporating small urban and rural areas as well as major metropolitan areas into the sample. During the eighties every four years a national survey will be completed (next survey, 1986) and every four years, a major metropolitan area only survey (1984, 1988). The data from these surveys is usually released about one year

after the survey is complete. The information from the 1982 national survey will be made available in late 1983. During the 1980's, therefore, the information to calculate taste factors will be more readily available and of better quality (more current). The survey sample is based upon the Labour Force Sampling Frame and is considered to be representative of the total population for the national surveys and of the metropolitan areas for the other survey.

In order to compare consumption to production it is necessary to multiply it by the population and add losses sustained in distribution. These loss rates, which vary from product to product have been obtained from Statistics Canada. The waste factors used for specific commodities attempt to account for waste up to the retail level but do not allow for losses in stores, households, private institutions or restaurants.

TABLE 74

WASTE FACTORS
(% OF FOOD GROSS)

Dairy Products	0
Meats	0
Apples	4
Raspberries	8
Strawberries	8
Blueberries	3
Potatoes	20*
Carrots	3
Rutabagas	12
Tomatoes	15
Cucumbers	8
Lettuce	7
Beans	6
Cabbage	7
Corn	8
Cauliflower	8
Beets	7

* % of Production

Source: Statistics Canada, Agricultural Statistics Division, Crops Section

The self-sufficiency rate for a given product can be calculated by measuring the ratio of the quantity harvested to the quantity consumed. The production figures used in our calculations have been produced by Statistics Canada except where noted. No attempt has been made to account for abnormal fluctuations in production.

The results of this analysis are presented in the following tables and graphs for fresh fruits and vegetables, poultry and poultry products, dairy products and meat.

Given the assumptions made in using this approach, the calculations of self-sufficiency must be considered approximate, they should, however, be better than an unadjusted figure based upon Canadian per capita consumption alone.

The comparison of these results with those obtained using the residual approach reveals that dissimilar results are obtained using the different methods. An example of a group of products for which a significant amount of information was available will serve to illustrate these differences.

It is accepted by the dairy industry that virtually no movement of fluid milk occurs between provinces, consequently New Brunswick must be

self-sufficient in drinking milk and creams. Using the taste factor to calculate consumption and self sufficiency, results in estimates of self-sufficiency for whole milk of approximately 100%, for 2% milk of 70% and for skim of approximately 80% for 1980. Problems with any of our assumptions could account for these differences.

Obviously if sufficient information is available, the residual approach is preferred. However, for products such as processed dairy products, poultry meat and red meat import data for the residual approach is virtually non existent and the taste factor can provide an indication of the surplus or deficit position of the province. With the expected improvement in family expenditure data during the 80's, this approach should provide better quality information during this decade.

TABLE 75

1980 SELF-SUFFICIENCY

COMMODITY	UNIT	1978 TASTE FACTOR	1980 PER CAPITA CANADA	1980 N.B. PER CAPITA	TOTAL N.B. CONSUMPTION	LOSS	TOTAL CONSUMPTION & LOSS	N.B. PRODUCTION	N.B. SELF-SUFFICIENCY
Apples	lb	0.92798	25.14	23.33	16,242,346	676,764	16,919,110	11,760,000	69.51%
Blueberries	lb	N/A	0.25	N/A	174,050	5,383	179,433	3,900,000[1]	2173.51%
Strawberries	lb	1.9653	3.19	6.25	4,351,250	378,370	4,729,620	3,740,000	79.08%
Raspberries	lb	0.11036	0.04	0.004	2,785	242	3,027	50,000	1651.80%
Corn	lb	0.6628	4.66	3.09	2,151,258	187,066	2,338,324	1,340,000	57.31%
Cabbage	lb	0.3342	14.31	4.78	3,327,836	250,482	3,578,318	4,640,000	129.67%
Beans	lb	0.2236	1.51	0.34	236,708	15,109	251,817	252,000	100.07%
Cauliflower	lb	0.0906	4.00	0.36	250,632	21,794	272,426	936,000	343.58%
Beets	lb	N/A	1.05	N/A	731,010	55,022	786,032	910,000	115.77%
Rutabagas	lb	1.4548	5.94	8.64	6,015,168	820,250	6,835,418	6,800,000	99.50%
Cucumber	lb	0.7116	4.02	2.86	1,991,132	173,142	2,164,274	780,000	36.04%
Tomatoes	lb	0.4014	12.87	5.16	3,592,392	312,382	3,904,774	770,000	19.72%
Parsnips	lb	N/A	0.33	N/A	229,746	-	-	525,000	-
Lettuce	lb	0.4269	20.67	8.57	5,966,434	430,567	6,150,963	385,000	6.26%
Potatoes	lb	1.2974	156.81	202.28	140,827,330	35,206,832	176,034,162	1,158,900,000	658.34%
Carrots	lb	0.8910	17.69	15.76	10,972,112	339,344	11,311,455	3,500,000	30.94%
Butter	lb	0.7815	9.97	7.79	5,423,398	0	5,423,398	1,743,854	32.15%
Cheese		0.7608	3.28	2.49	1,733,538	0	1,733,538	-	-
Ice Cream	1	0.9393	13.00	12.21	8,500,602	0	8,500,602	7,538,000	88.68%
Fluid Wl. Milk	1	1.3311	41.53	55.28	38,485,936	0	38,485,936	38,244,000[3]	99.37%
Fluid Skim Milk	1	1.4587	3.81	5.56	3,879,872	0	3,879,872	3,098,000[3]	80.03%
Fluid 2% Milk	1	0.9073	55.35	50.22	34,963,164	0	34,963,164	25,103,000[3]	71.81%
Cereal Cream	1	N/A	2.73	N/A	1,900,626	0	1,900,626	1,030,000[3]	54.19%
Coffee & Table Cream	1	N/A	0.28	N/A	194,936	0	194,936	80,000[3]	41.04%
Whipping Cream	1	N/A	0.66	N/A	459,492	0	459,492	203,000[3]	44.18%
Chocolate Drink	1	N/A	4.01	N/A	2,791,762	0	2,791,762	3,233,000[3]	115.80%
Buttermilk	1	N/A	0.61	N/A	424,682	0	424,682	230,000[3]	54.16%
Eggs	Doz.	0.9888	18.70	18.49	12,872,738	0	12,872,738	9,380,000	72.87%
Chicken	lb	0.8812	38.14	33.60	23,392,320	0	23,392,320	23,095,000	98.73%

. . . Cont'd

TABLE CONTINUED

COMMODITY	UNIT	1978 TASTE FACTOR	1980 PER CAPITA CANADA	1980 N.B. PER CAPITA	TOTAL N.B. CONSUMPTION	LOSS	TOTAL CONSUMPTION & LOSS	N.B. PRODUCTION	N.B. SELF-SUFFICIENCY
Fowl	lb	N/A	2.80	N/A	1,949,360	0	1,949,360	2,254,000	115.63%
Turkey	lb	1.6070	9.46	10.09	7,024,658	0	7,024,658	2,178,000	31.00%
Beef	lb	0.7591	87.70	66.57	46,346,034	0	46,346,034	14,115,313	36.46%
Veal	lb	0.1685	3.09	0.52	362,024	0	362,024	423,006	116.84%
Lamb & Mutton	lb	0.0832	1.75	0.145	100,949	0	100,949	220,071[2]	218.00%
Pork	lb	0.9560	71.25	68.11	47,418,182	0	47,418,182	12,412,764	26.18%

1. Since 95% of production goes to processing only 195,000 lbs. of N. B. production available for fresh consumption therefore self-sufficiency of 108.68% for fresh market is more realistic.

2. Large proportion of this lamb and mutton actually has been slaughtered in Quebec and Ontario and much of the lamb and mutton consumed in the Province is imported.

3. Source: New Brunswick Dairy Products Commission.

TABLE 76

1979 SELF-SUFFICIENCY

COMMODITY	UNIT	1978 TASTE FACTOR	1979 PER CAPITA CANADA	1979 N.B. PER CAPITA	TOTAL N.B. CONSUMPTION	LOSS	TOTAL CONSUMPTION & LOSS	N.B. PRODUCTION	N.B. SELF-SUFFICIENCY
Apples	lb	0.9279	26.12	24.23	16,781,698	699,237	17,480,935	13,000,000	74.36%
Blueberries	lb	N/A	0.51	-	353,226	10,924	364,150	4,278,000[1]	1174.79%
Strawberries	lb	1.9653	3.17	6.23	4,314,898	375,208	4,690,106	1,575,000	33.58%
Raspberries	lb	0.11036	0.01	0.001	692	60	752	37,500	4986.70%
Corn	lb	0.6628	5.12	3.39	2,347,914	204,166	2,552,080	1,000,000	39.18%
Cabbage	lb	0.3342	14.23	4.75	3,289,850	247,623	3,537,473	5,075,000	143.46%
Beans	lb	0.2236	1.25	0.2795	193,581	12,356	205,937	217,000	105.37%
Cauliflower	lb	0.0906	3.69	0.334	231,328	20,115	251,443	998,000	396.50%
Beets	lb	N/A	0.99	-	685,674	51,609	737,283	312,000	42.30%
Rutabagas	lb	1.4548	5.84	8.49	5,880,174	801,841	6,682,015	8,200,000	122.72
Cucumber	lb	0.7166	4.09	2.91	2,015,466	175,257	2,190,723	748,000	34.10%
Tomatoes	lb	0.4014	12.97	5.206	3,481,007	614,295	4,095,302	650,000	15.80%
Parsnips	lb	N/A	0.32	-	221,632	-	-	432,000	-
Lettuce	lb	0.4269	20.85	8.90	6,164,140	463,967	6,628,107	496,000	7.48%
Potatoes	lb	1.2974	173.50	225.03	155,855,778	13,552,676	169,408,454	1,301,600,000	768.32%
Carrots	lb	0.8910	18.96	16.89	11,698,014	361,794	12,059,808	3,852,000	31.90%
Butter	lb	0.7815	9.85	7.77	5,381,502	0	5,381,502	1,979,731	36.79%
Cheese	lb	0.7608	3.24	2.46	1,703,796	0	1,703,796	-	-
Ice Cream	l	0.9393	13.00	12.21	8,456,646	0	8,456,646	8,206,000	97.04%
Fluid Wl. Milk	l	1.3311	42.37	56.40	39,062,640	0	39,062,640	38,486,000[3]	98.50%
Fluid Skim Milk	l	1.4587	3.89	5.67	3,927,042	0	3,927,042	3,098,000[3]	78.89%
Fluid 2% Milk	l	0.9073	54.20	49.18	34,062,068	0	34,062,068	23,493,000[3]	68.97%
Cereal Cream	l	N/A	2.60	-	1,800,760	0	1,800,760	937,000[3]	52.03%
Table Cream	l	N/A	0.28	-	193,928	0	193,928	48,000[3]	24.75%
Whipping Cream	l	N/A	0.63	-	436,338	0	436,338	173,000[3]	39.65%
Chocolate Drink	l	N/A	3.99	-	2,763,474	0	2,763,474	3,109,000[3]	112.50%
Buttermilk	l	N/A	0.64	-	443,264	0	443,264	253,000[3]	57.08%
Eggs	Doz.	0.9888	18.90	18.68	12,937,768	0	12,937,768	8,065,729	62.34%
Chicken	lb	0.8812	39.01	34.37	23,804,662	0	23,804,662	23,707,000	99.58%

. . . Cont'

TABLE CONTINUED

COMMODITY	UNIT	1978 TASTE FACTOR	1979 PER CAPITA CANADA	1979 N.B. PER CAPITA	TOTAL N.B. CONSUMPTION	LOSS	TOTAL CONSUMPTION & LOSS	N.B. PRODUCTION	N.B. SELF-SUFFICIENCY
Fowl	lb	N/A	2.46	-	1,703,796	0	1,703,796	2,091,000	122.72%
Turkey	lb	1.6070	9.03	14.51	10,049,626	0	10,049,626	2,371,000	23.59%
Beef	lb	0.7591	88.06	66.84	46,293,384	0	46,293,384	14,546,017	31.42%
Veal	lb	0.1685	3.06	0.5156	357,104	0	357,104	460,325	128.90%
Lamb & Mutton	lb	0.08316	2.33	0.1937	134,156	0	134,156	226,897[2]	169.12%
Pork	lb	0.9560	65.48	62.59	43,349,834	0	43,349,834	8,983,359	20.72%

1. Note 95% of production goes to processing.

2. Large proportion of this lamb & mutton actually has been slaughtered in Quebec and Ontario and much of the lamb and mutton consumed in the Province is imported.

3. Source: New Brunswick Dairy Products Commission.

TABLE 77

1978 SELF-SUFFICIENCY

COMMODITY	UNIT	1978 TASTE FACTOR	1978 PER CAPITA CANADA	1978 N.B. PER CAPITA	TOTAL N.B. CONSUMPTION	LOSS	TOTAL CONSUMPTION & LOSS	N.B. PRODUCTION	N.B. SELF-SUFFICIENCY
Apples	lb	0.92798	23.71	22.00	15,160,200	631,675	15,791,875	12,600,000[1]	79.79%
Blueberries	lb	N/A	0.32	-	220,512	6,819	227,331	3,700,000	1627.58%
Strawberries	lb	1.965	13.10	6.09	4,196,619	364,923	4,561,542	2,250,000	49.33%
Raspberries	lb	0.11036	N/A	-	-	-	-	-	-
Corn	lb	0.6628	4.76	3.15	2,170,665	163,383	2,334,048	1,189,000	50.94%
Cabbage	lb	0.3342	15.31	5.116	3,525,435	265,355	3,790,790	5,185,000	136.78%
Beans	lb	0.2236	1.22	0.272	187,435	11,963	199,398	150,000	75.23%
Cauliflower	lb	0.0906	2.87	0.640	441,024	38,349	479,373	728,000	151.87%
Beets	lb	N/A	0.82	-	565,062	42,531	607,593	402,000	66.16%
Rutabagas	lb	1.4548	4.96	7.215	4,971,856	677,980	5,649,836	6,000,000	106.20%
Cucumber	lb	0.7116	3.96	9.080	6,257,028	544,089	4,134,600	371,000	8.97%
Tomatoes	lb	0.4014	12.72	5.10	3,514,410	620,190	4,144,600	490,000	11.82%
Parsnips	lb	N/A	0.43	-	296,313	-	-	384,000	-
Lettuce	lb	0.4269	20.38	8.700	5,995,170	451,249	6,446,419	413,000	6.41%
Potatoes	lb	1.2974	159.79	207.31	142,857,321	12,422,375	155,279,696	1,223,600,000	788.00%
Carrots	lb	0.8910	18.96	16.89	11,638,899	359,965	11,998,864	3,002,000	25.02%
Butter	lb	0.7815	9.86	7.71	5,312,961	0	5,312,961	1,924,616	36.22%
Cheese	lb	0.7608	1.09	0.83	571,953	0	571,953	-	-
Ice Cream	l	0.9393	12.23	11.49	7,917,759	0	7,917,759	8,403,000	106.13%
Fluid Wl. Milk	l	1.3311	42.76	56.92	39,223,572	0	39,223,572	39,030,000[3]	99.51%
Fluid Skim Milk	l	1.4587	3.75	5.47	3,769,377	0	3,769,377	2,976,000[3]	78.95%
Fluid 2% Milk	l	0.9073	51.37	46.61	32,118,951	0	32,118,951	22,169,000[3]	69.02%
Cereal Cream	l	N/A	2.51	-	1,729,641	0	1,729,641	786,000[3]	45.44%
Table Cream	l	N/A	0.26	-	179,166	0	179,166	23,000[3]	12.84%
Whipping Cream	l	N/A	0.56	-	385,896	0	385,896	187,000[3]	48.46%
Chocolate Drink	l	N/A	3.73	-	2,570,343	0	2,570,343	2,895,000[3]	112.63%
Buttermilk	l	N/A	0.64	-	441,024	0	441,024	249,000[3]	66.46%
Eggs	Doz.	0.9888	18.2	17.996	12,401,043	0	12,401,043	7,401,863	59.68%
Chicken	lb	0.8812	35.27	31.079	21,416,538	0	21,416,538	21,950,000	102.49%

. . . Cont'd

TABLE CONTINUED

COMMODITY	UNIT	1978 TASTE FACTOR	1978 PER CAPITA CANADA	1978 N.B. PER CAPITA	TOTAL N.B. CONSUMPTION	LOSS	TOTAL CONSUMPTION & LOSS	N.B. PRODUCTION	N.B. SELF-SUFFICIENCY
Fowl	lb	N/A	2.73	-	1,881,243	0	1,881,243	1,471,000	78.19%
Turkey	lb	1.6070	9.14	14.687	10,122,189	0	10,122,189	2,258,000	22.30%
Beef	lb	0.7591	100.86	76.56	52,757,496	0	52,757,496	15,344,936	29.08%
Veal	lb	0.1685	3.89	0.655	451,360	0	451,360	511,477	113.30%
Lamb & Mutton	lb	0.08316	1.86	0.154	106,121	0	106,121	265,056[2]	249.76%
Pork	lb	0.9560	57.73	55.189	38,030,739	0	38,030,739	7,518,496	19.77%

1. Note 95% of production goes to processing.

2. Large proportion of this lamb & mutton actually has been slaughtered in Quebec and Ontario and much of the lamb and mutton consumed in the Province is imported.

3. Source: New Brunswick Dairy Products Commission.

TABLE 78

1977 SELF-SUFFICIENCY

COMMODITY	UNIT	1974 TASTE FACTOR	1977 PER CAPITA CANADA	1977 N.B. PER CAPITA	TOTAL N.B. CONSUMPTION	LOSS	TOTAL CONSUMPTION & LOSS	N.B. PRODUCTION	N.B. SELF-SUFFICIENCY
Apples	lb	0.9638	24.61	23.72	16,229,224	676,218	16,905,442	10,500,000 [1]	62.11%
Blueberries	lb	N/A	0.36	-	246,312	7,618	253,930	3,303,000	1300.75%
Strawberries	lb	1.3952	2.65	3.70	2,531,540	220,134	2,751,674	1,125,000	40.88%
Raspberries	lb	N/A	0.02	-	13,684	1,190	14,874	18,750	126.06%
Corn	lb	0.6905	4.61	3.18	2,175,756	189,196	2,364,952	1,014,000	42.88%
Cabbage	lb	0.6116	13.63	8.34	5,706,228	429,501	6,135,729	2,970,000	48.41%
Beans	lb	0.2727	1.24	0.34	232,628	14,849	247,477	135,000	54.55%
Cauliflower	lb	0.4114	2.36	0.97	663,674	57,711	721,385	480,000	66.54%
Beets	lb	N/A	1.01	-	691,042	52,014	743,056	330,000	44.41%
Rutabagas	lb	1.8823	4.71	8.87	6,068,854	827,571	6,896,425	4,800,000	69.60%
Cucumber	lb	0.6629	3.58	2.37	1,621,554	141,005	1,762,559	314,000	17.82%
Tomatoes	lb	0.5218	11.32	5.91	4,043,622	713,580	4,757,202	378,000	7.95%
Parsnips	lb	N/A	0.25	-	171,050	-	-	282,000	-
Lettuce	lb	0.5463	20.01	10.93	7,478,306	562,883	8,041,189	258,000	3.21%
Potatoes	lb	1.5838	157.04	248.72	170,174,224	42,543,556	212,717,780	1,109,300,000	521.49%
Carrots	lb	1.1816	14.11	16.67	11,405,614	352,751	11,758,365	2,790,000	23.73%
Butter	lb	1.3289	10.00	13.29	9,093,018	0	9,093,018	2,034,866	22.38%
Cheese	lb	0.6074	3.25	1.97	1,347,874	0	1,347,874	-	-
Ice Cream	l	1.1084	12.50	13.86	9,483,012	0	9,483,012	9,059,000	95.53%
Fluid Wl. Milk	l	1.2473	49.81	62.13	42,509,346	0	42,509,346	39,689,000 [3]	93.37%
Fluid Skim Milk	l	1.3078	3.64	4.76	3,256,792	0	3,256,792	2,819,000 [3]	86.56%
Fluid 2% Milk	l	0.7252	48.95	35.50	24,289,100	0	24,289,100	19,504,000 [3]	80.30%
Cereal Cream	l	N/A	N/A	-	-	0	-	796,000 [3]	-
Table Cream	l	N/A	N/A	-	-	0	-	18,000 [3]	-
Whipping Cream	l	N/A	N/A	-	-	0	-	211,000 [3]	-
Chocolate Drink	l	N/A	3.43	-	2,346,806	0	2,346,806	2,562,000 [3]	109.17%
Buttermilk	l	N/A	0.63	-	431,046	0	431,046	229,000 [3]	53.13%
Eggs	Doz.	0.9395	18.60	17.47	11,952,974	0	11,952,974	9,141,000	76.47%
Chicken	lb	0.7322	33.72	24.69	16,892,898	0	16,892,898	22,172,000	131.25%

. . . Cont'

TABLE CONTINUED

COMMODITY	UNIT	1974 TASTE FACTOR	1977 PER CAPITA CANADA	1977 N.B. PER CAPITA	TOTAL N.B. CONSUMPTION	LOSS	TOTAL CONSUMPTION & LOSS	N.B. PRODUCTION	N.B. SELF-SUFFICIENCY
Fowl	lb	0.9046	2.70	2.44	1,669,448	0	1,669,448	2,270,000	135.97%
Turkey	lb	1.4364	9.32	13.39	9,161,438	0	9,161,438	2,394,000	26.13%
Beef	lb	0.9805	107.88	105.78	72,374,676	0	72,374,676	16,285,837	22.50%
Veal	lb	0.0431	4.77	0.21	143,682	0	143,682	685,015	476.76%
Lamb & Mutton	lb	0.1341	1.79	0.24	164,208	0	164,208	237,870[2]	144.86%
Pork	lb	0.9867	55.51	54.77	37,473,634	0	37,473,634	7,453,116	19.89%

1. Note 95% of production goes to processing.

2. Large proportion of this lamb & mutton actually has been slaughtered in Quebec and Ontario and much of the lamb and mutton consumed in the Province is imported.

3. Source: New Brunswick Dairy Products Commission.

TABLE 79

1976 SELF-SUFFICIENCY

COMMODITY	UNIT	1974 TASTE FACTOR	1976 PER CAPITA CANADA	1976 N.B. PER CAPITA	TOTAL N.B. CONSUMPTION	LOSS	TOTAL CONSUMPTION & LOSS	N.B. PRODUCTION	N.B. SELF-SUFFICIENCY
Apples	lb	0.9638	29.34	28.28	19,152,630	798,026	19,950,656	11,760,000[1]	58.95%
Blueberries	lb	N/A	0.21	-	142,222	4,398	146,620	3,760,000[1]	2564.45%
Strawberries	lb	1.3952	2.47	3.48	2,336,512	203,168	2,539,680	1,812,500	71.37%
Raspberries	lb	N/A	0.05	-	33,862	2,944	36,806	40,000	108.68%
Corn	lb	0.6905	4.69	3.24	2,194,290	190,800	2,385,090	1,596,000	66.92%
Cabbage	lb	0.6116	14.54	8.89	6,020,752	453,173	6,473,925	3,960,000	61.17%
Beans	lb	0.2727	1.21	0.33	223,492	14,268	237,760	102,000	42.90%
Cauliflower	lb	0.4114	2.50	1.03	697,568	60,656	758,224	427,000	56.32%
Beets	lb	N/A	0.75	-	507,938	38,234	546,172	292,000	53.46%
Rutabagas	lb	1.8803	5.61	10.55	7,144,988	974,316	8,119,304	6,000,000	73.90%
Cucumber	lb	0.6629	3.89	2.58	1,747,305	151,936	1,899,241	518,000	27.27%
Tomatoes	lb	0.5218	11.82	6.17	4,178,632	737,400	4,916,032	682,000	13.87%
Parsnips	lb	N/A	N/A	-	-	-	-	-	-
Lettuce	lb	0.5463	19.68	10.75	7,280,438	548,988	7,829,426	455,000	5.81%
Potatoes	lb	1.5838	147.18	233.10	157,866,975	39,466,740	197,333,715	1,114,300,000	564.68%
Carrots	lb	1.1816	16.25	19.20	13,003,200	402,159	13,405,359	2,392,000	17.84%
Butter	lb	1.3289	11.20	14.88	10,077,480	0	10,077,480	1,992,978	19.78%
Cheese	lb	0.6074	3.66	2.22	1,503,495	0	1,503,495	-	-
Ice Cream	l	1.1084	12.14	13.46	9,115,785	0	9,115,785	9,397,000	103.08%
Fluid Wl. Milk	l	1.2473	N/A	-	-	0	-	40,797,000[3]	-
Fluid Skim Milk	l	1.3078	3.64	4.76	3,223,710	0	3,223,710	2,662,000[3]	82.56%
Fluid 2% Milk	l	0.7252	46.75	33.90	22,958,775	0	22,958,775	16,727,000[3]	72.86%
Cereal Cream	l	N/A	N/A	-	-	0	-	785,000[3]	-
Table Cream	l	N/A	N/A	-	-	0	-	18,000[3]	-
Whipping Cream	l	N/A	N/A	-	-	0	-	234,000[3]	-
Chocolate Drink	l	N/A	3.22	-	2,180,745	0	2,180,745	2,461,000[3]	112.85%
Buttermilk	l	N/A	0.62	-	419,895	0	419,895	215,000[3]	51.20%
Eggs	Doz.	0.9395	19.10	17.94	12,149,865	0	12,149,865	8,758,000	72.08%
Chicken	lb	0.7322	33.22	23.59	15,976,328	0	15,976,328	18,694,000	117.01%

. . . Cont'd

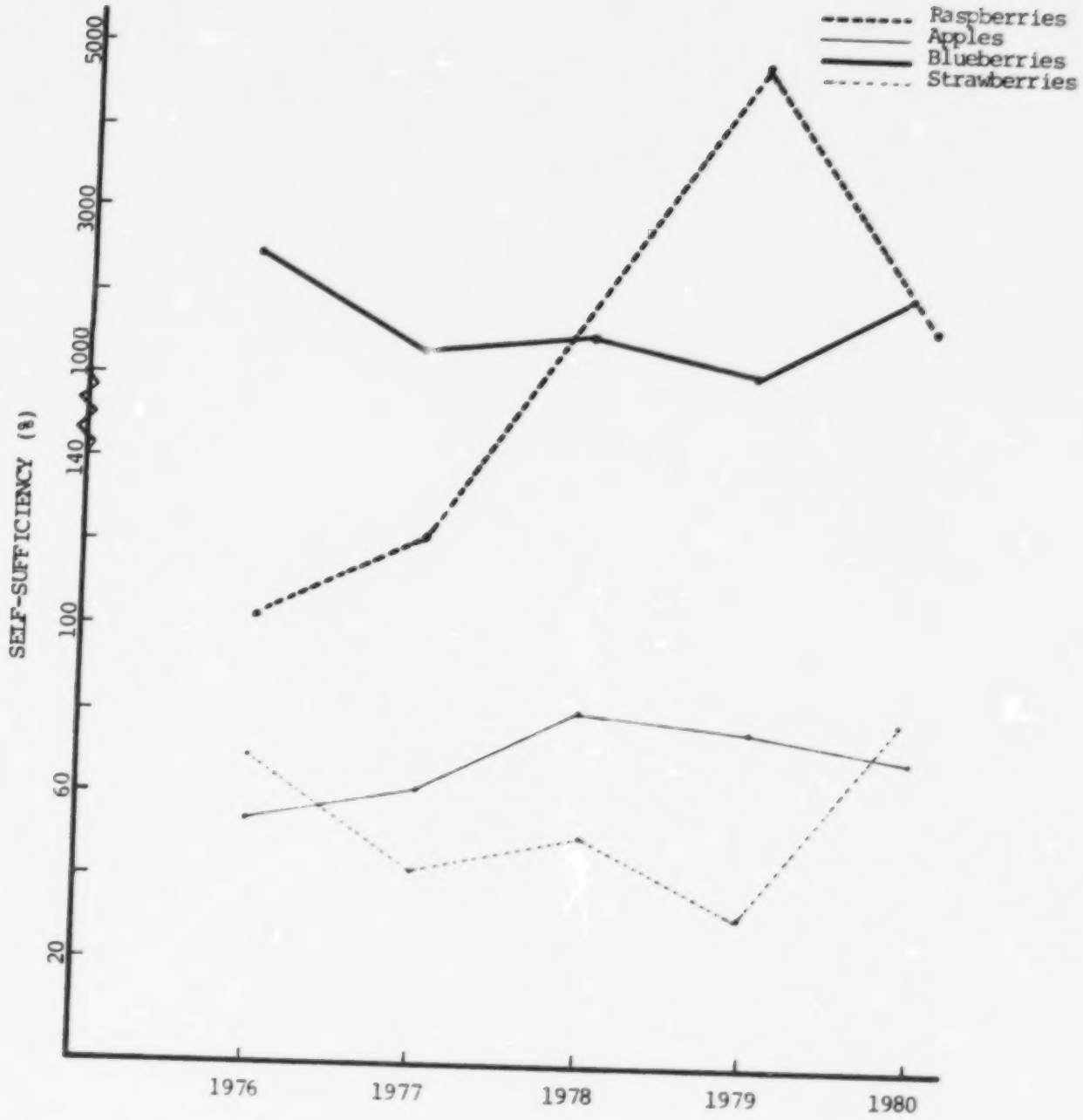
TABLE CONTINUED

COMMODITY	UNIT	1974 TASTE FACTOR	1976 PER CAPITA CANADA	1976 N.B. PER CAPITA	TOTAL N.B. CONSUMPTION	LOSS	TOTAL CONSUMPTION & LOSS	N.B. PRODUCTION	N.B. SELF-SUFFICIENCY
Fowl	lb	0.9046	2.65	2.40	1,625,400	0	1,625,400	1,237,000	76.10%
Turkey	lb	1.4364	9.19	13.20	8,939,700	0	8,939,700	2,463,000	27.55%
Beef	lb	0.98046	113.21	111.00	75,174,750	0	75,174,750	14,780,089	19.66%
Veal	lb	0.0431	4.77	0.20	135,450	0	135,450	554,674	409.51%
Lamb & Mutton	lb	0.1341	2.11	0.28	189,630	0	189,630	202,112 [2]	106.58%
Pork	lb	0.9897	53.18	49.97	33,842,182	0	33,842,182	7,263,630	21.46%

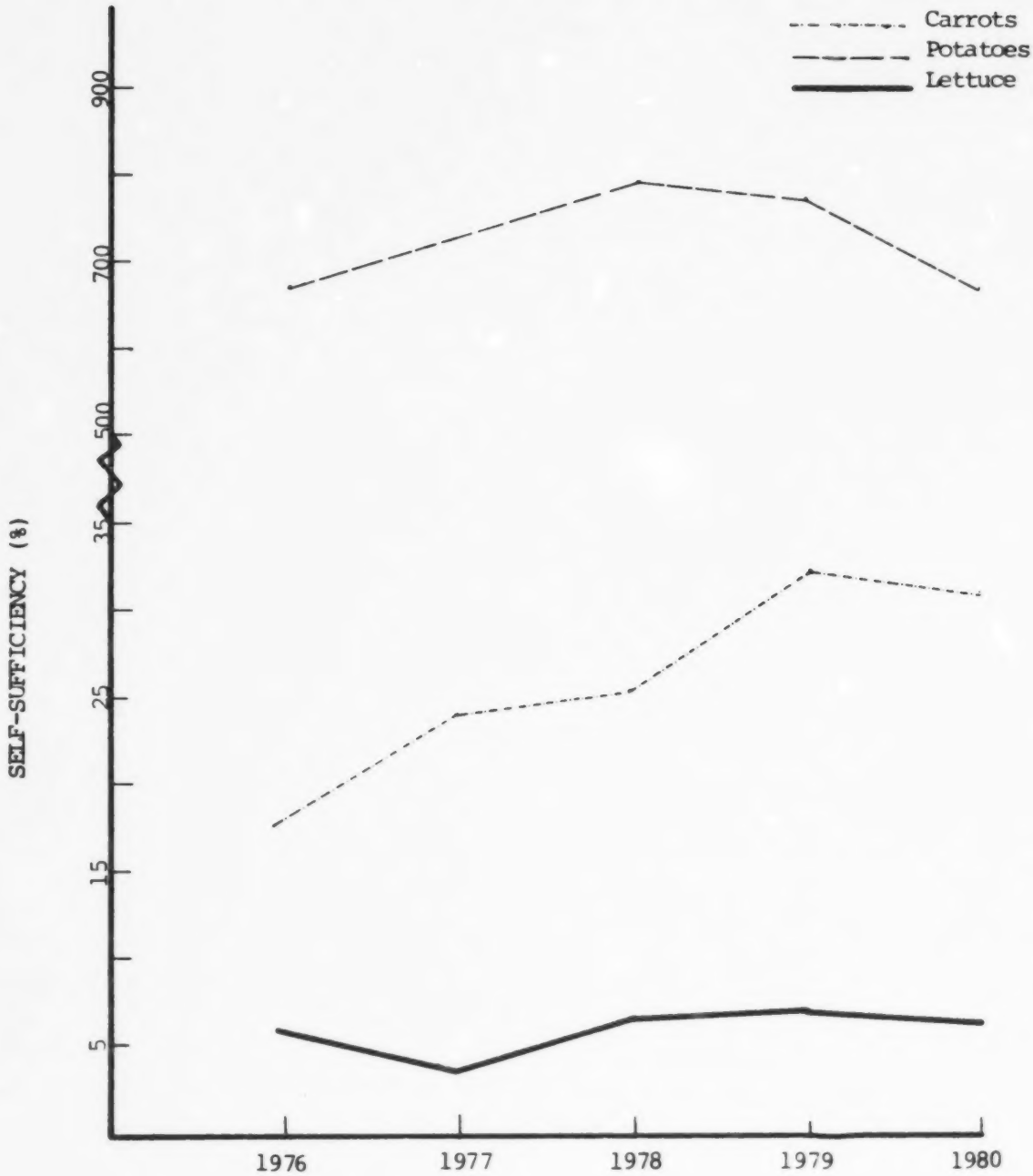
1. Note 95% of production goes to processing.

. Large proportion of this lamb & mutton actually has been slaughtered in Quebec and Ontario and much of the lamb and mutton consumed in the Province is imported.

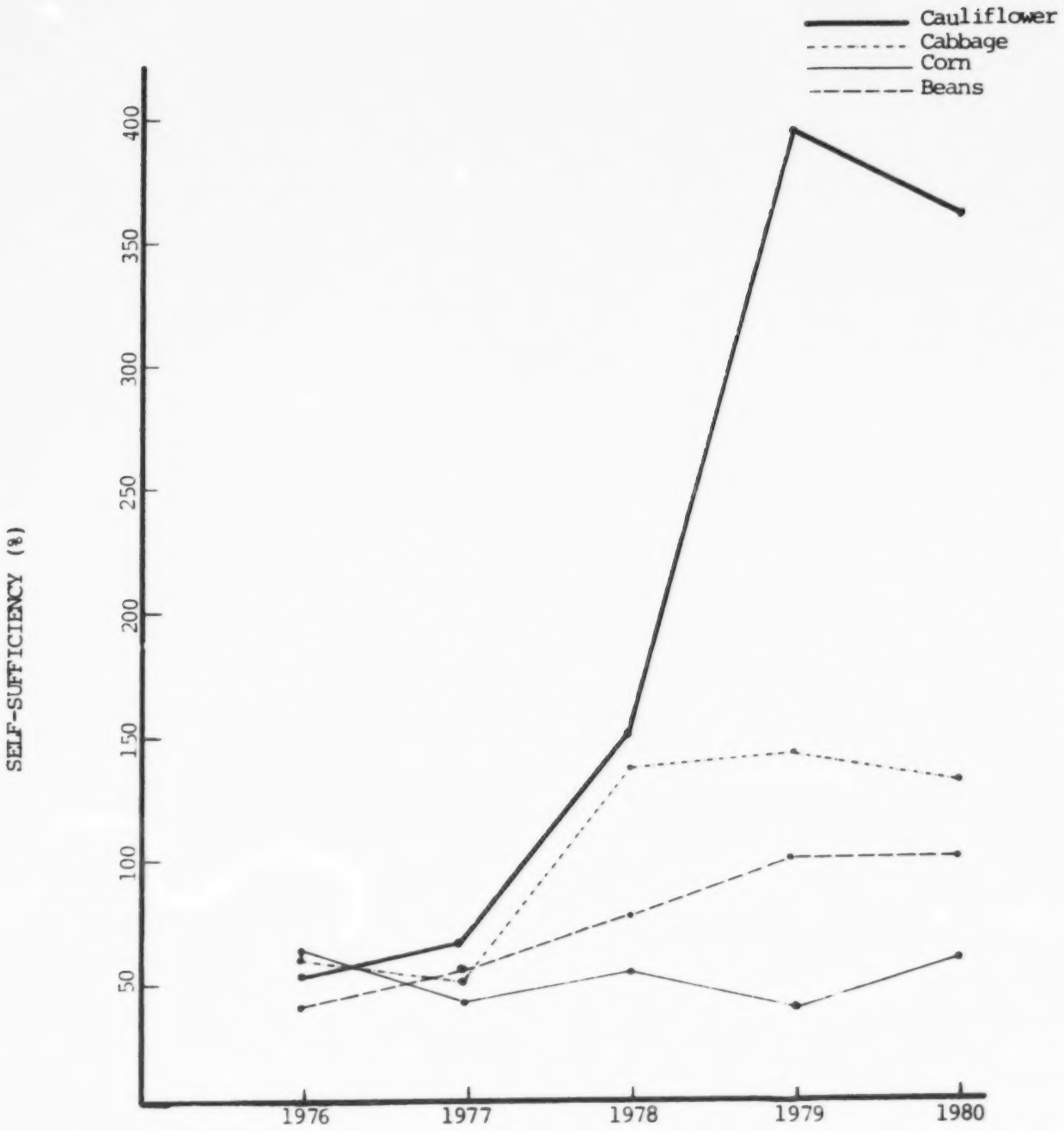
. Source: New Brunswick Dairy Products Commission.


Raspberries
Apples
Blueberries
Strawberries
SELF-SUFFICIENCY (%)
5000
3000
1000
140
100
60
20
1976
1977
1978
1979
1980

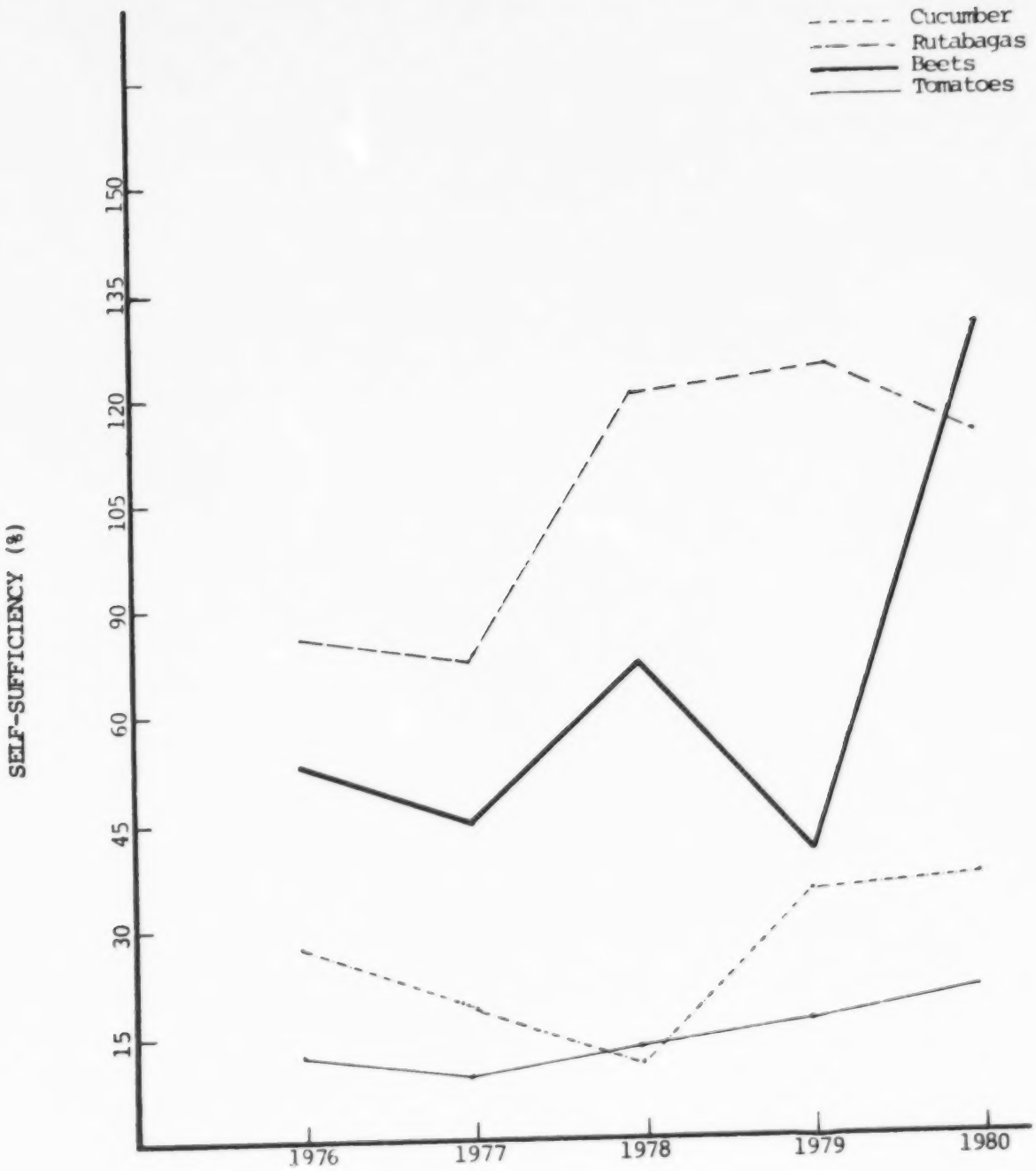
GRAPH I


Carrots
Potatoes
Lettuce
SELF-SUFFICIENCY (%)
900
700
500
35
25
15
5
1976
1977
1978
1979
1980

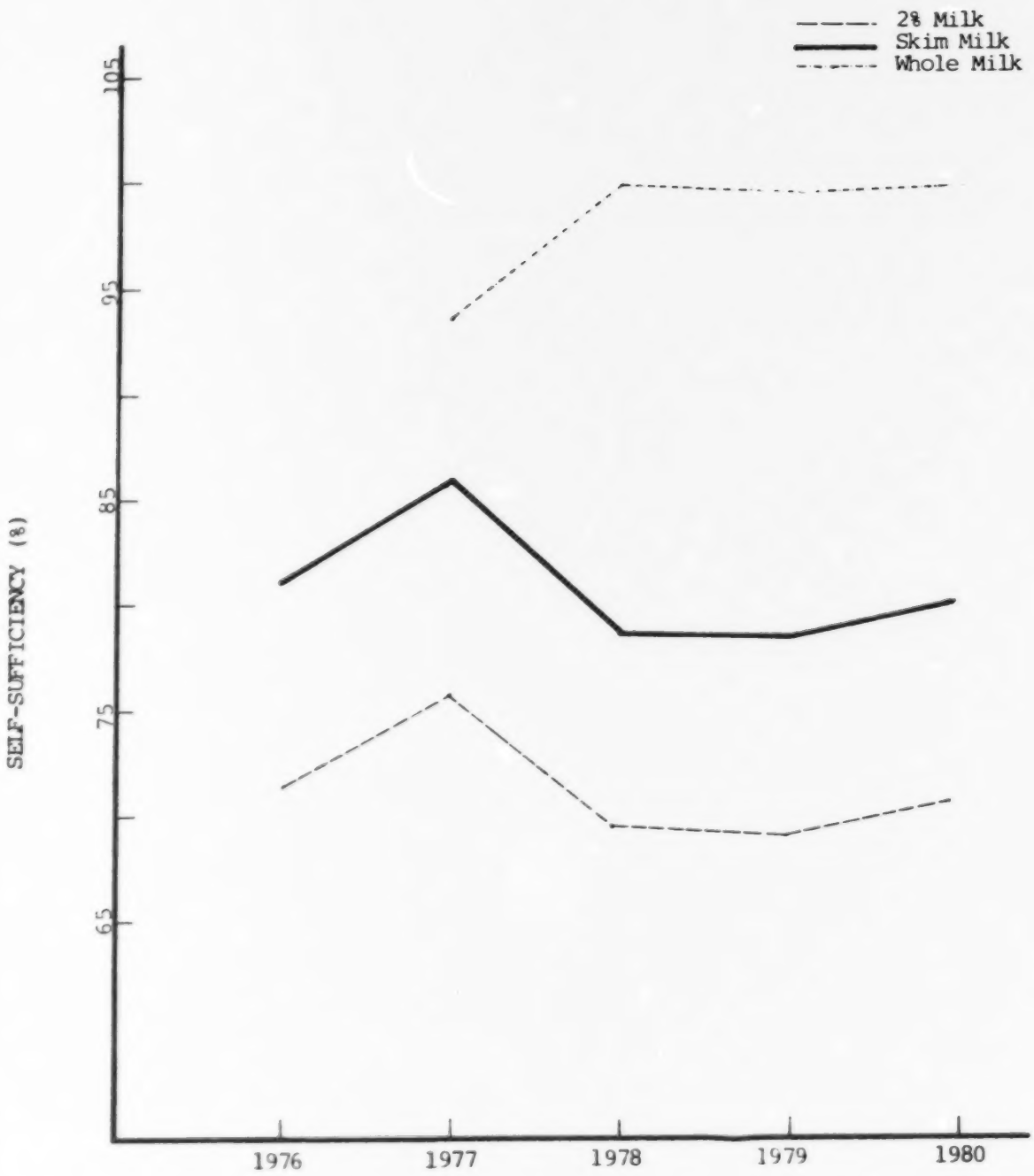
GRAPH II


Cauliflower
Cabbage
Corn
Beans
SELF-SUFFICIENCY (%)
400
350
300
250
200
150
100
50
1976
1977
1978
1979
1980

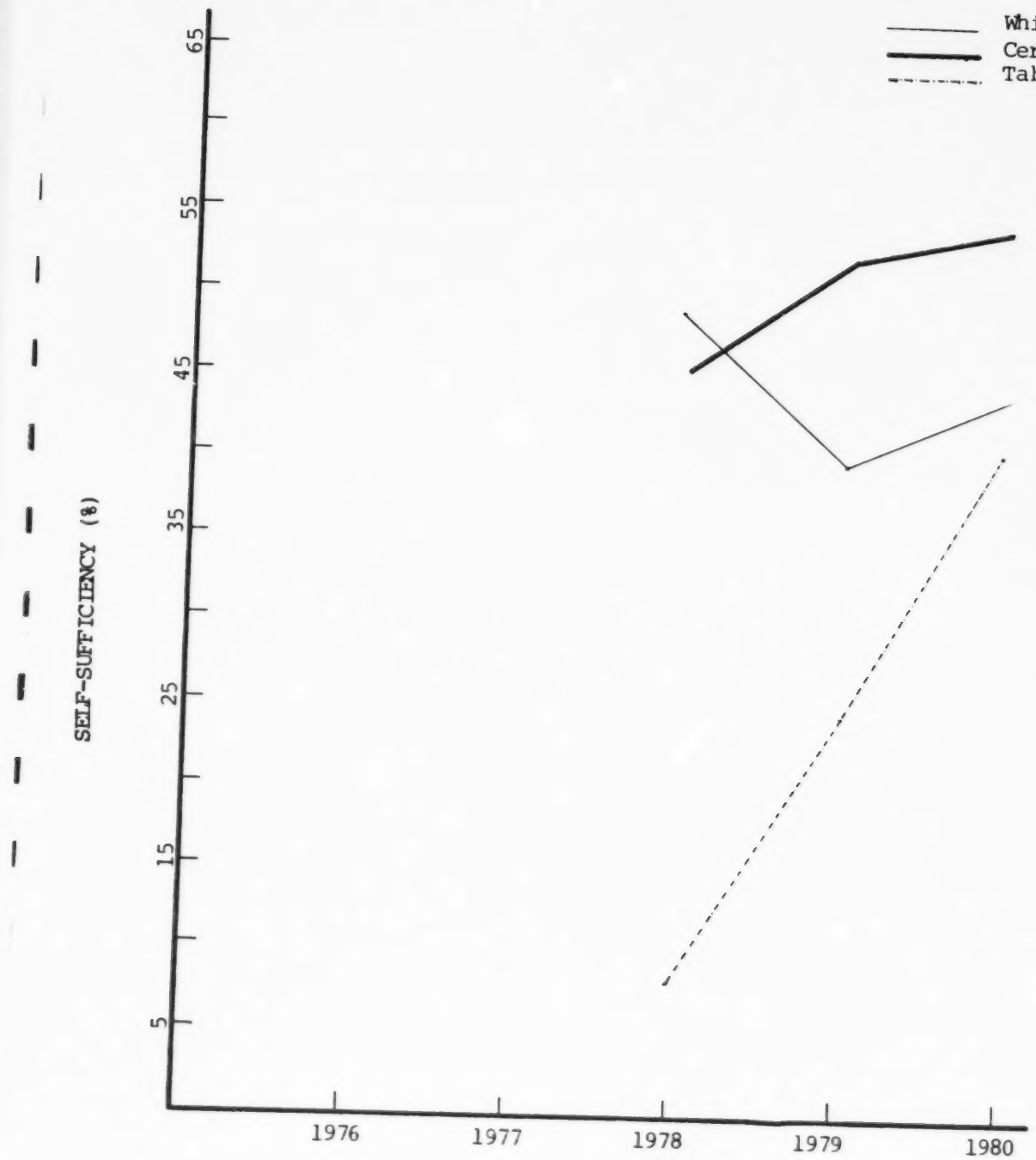
GRAPH III


Cucumber
Rutabagas
Beets
Tomatoes
SELF-SUFFICIENCY (%)
15
30
45
60
90
105
120
135
150
1976
1977
1978
1979
1980

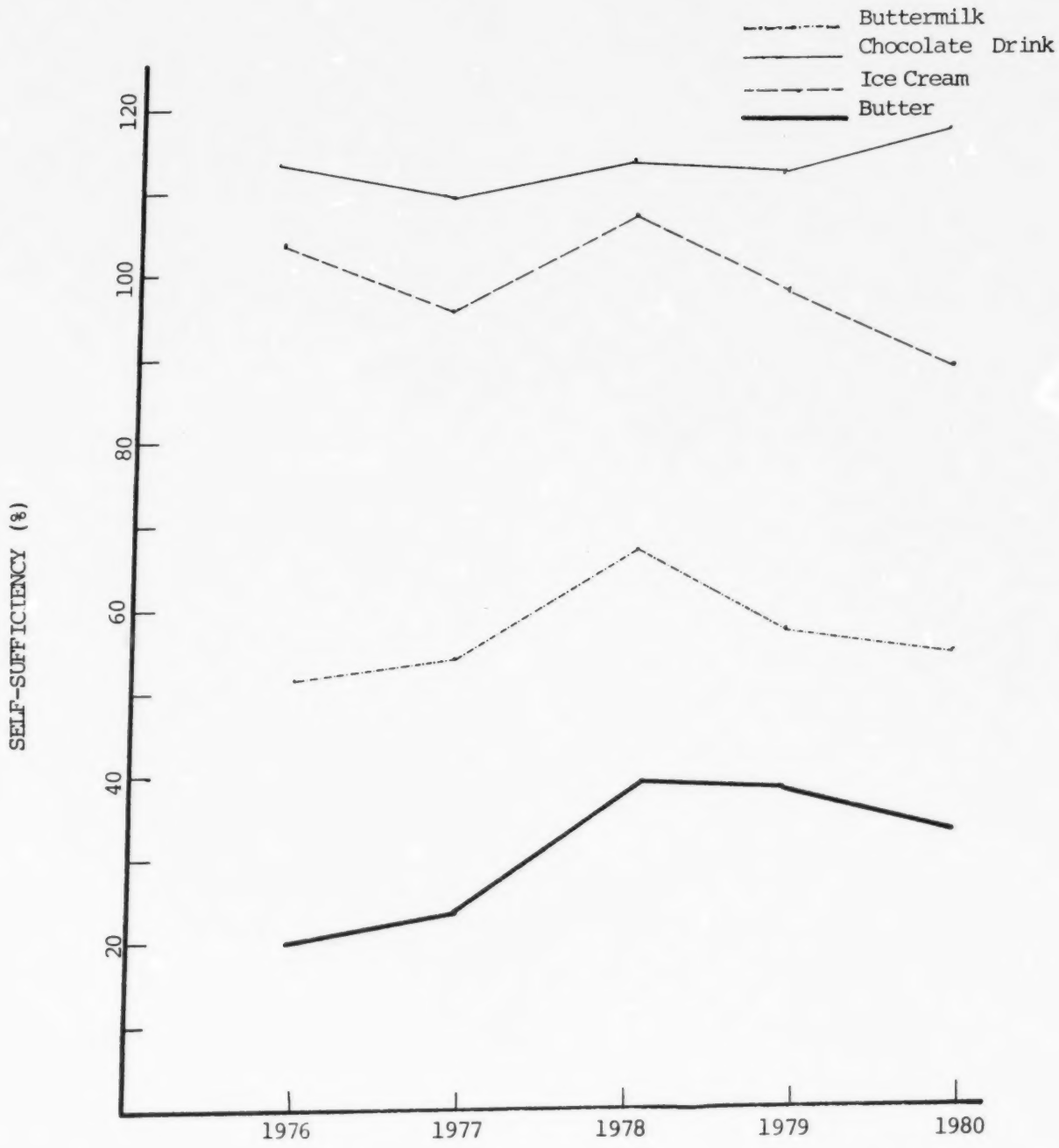
GRAPH IV


2% Milk
Skim Milk
Whole Milk
SELF-SUFFICIENCY (%)
105
95
85
75
65
1976
1977
1978
1979
1980

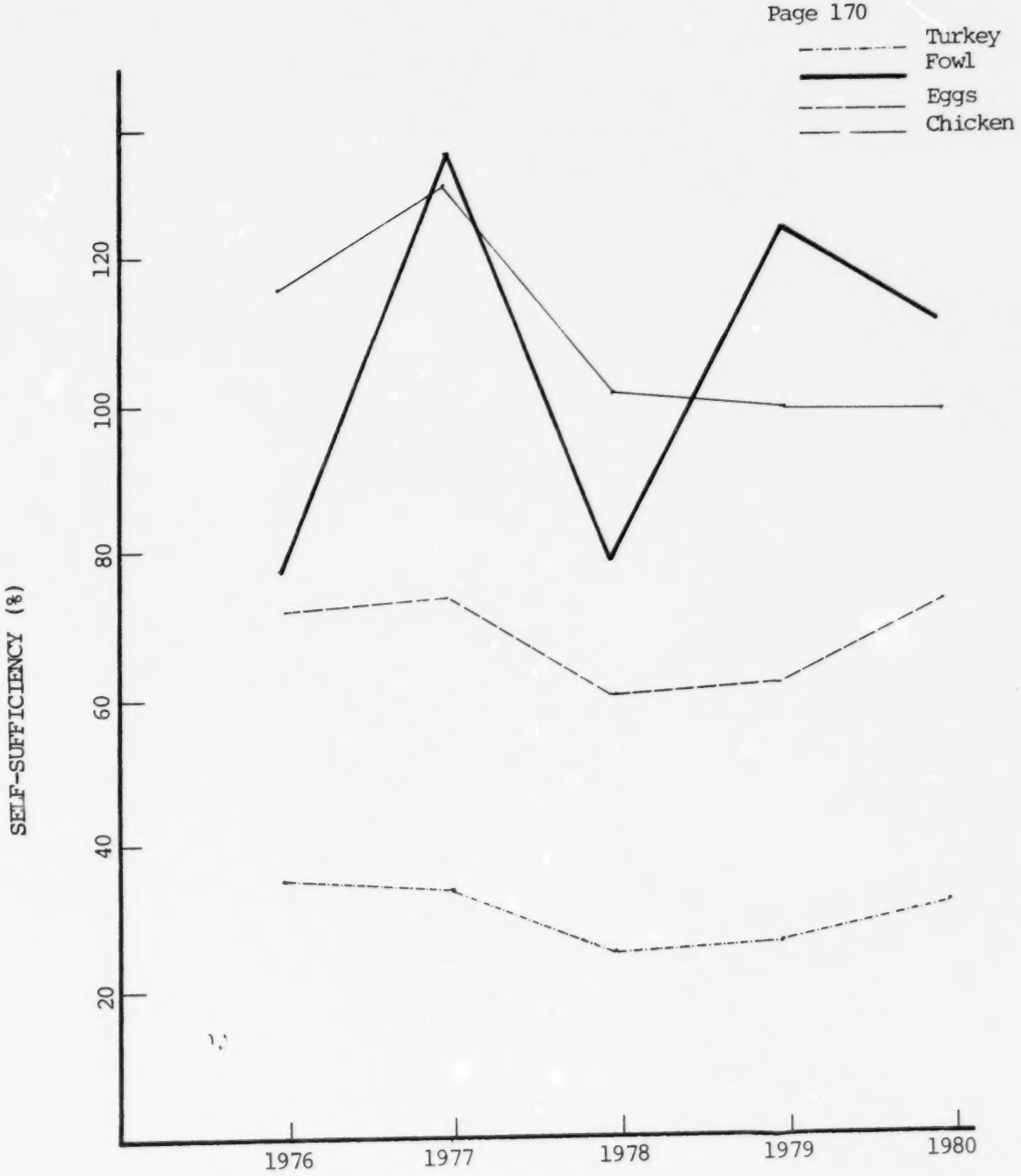
GRAPH V


Whipping Cream
Cereal Cream
Table Cream
SELF-SUFFICIENCY (%)
65
55
45
35
25
15
5
1976
1977
1978
1979
1980

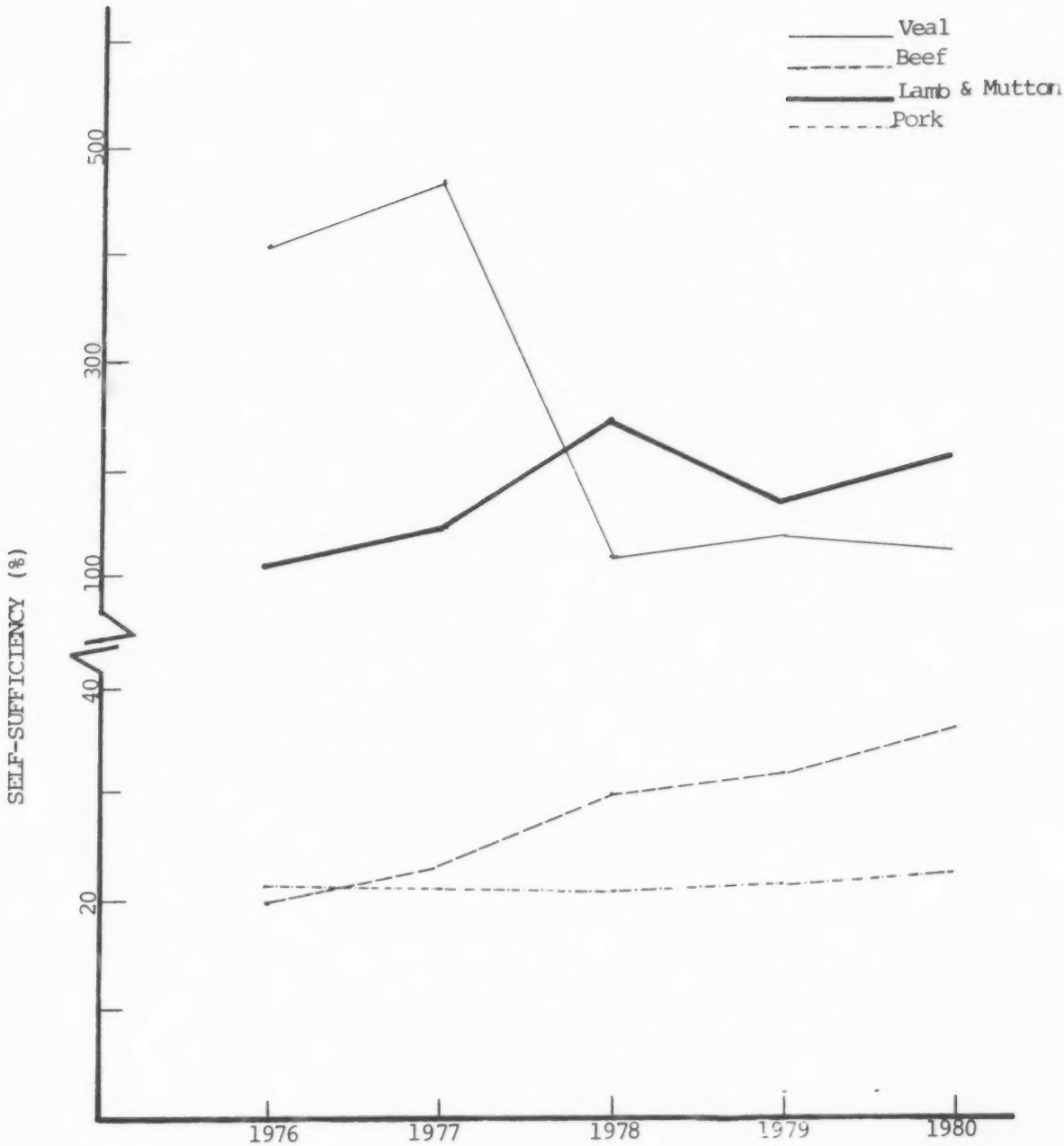
GRAPH VI


Buttermilk
Chocolate Drink
Ice Cream
Butter
SELF-SUFFICIENCY (%)
120
100
80
60
40
20
1976
1977
1978
1979
1980

GRAPH VII


Turkey
Fowl
Eggs
Chicken
SELF-SUFFICIENCY (%)
120
100
80
60
40
20
1976
1977
1978
1979
1980

GRAPH VIII


Veal
Beef
Lamb & Mutton
Pork
SELF-SUFFICIENCY (%)
500
300
100
40
20
1976
1977
1978
1979
1980

GRAPH IX

APPENDIX

TABLE 80

DESTINATION OF MANUFACTURING SHIPMENTS, 1979

DESTINATION - NEW BRUNSWICK

ORIGIN	FOOD & BEVERAGE INDUSTRIES	SLAUGHTERING & MEAT PROCESSORS	POULTRY PROCESSORS	FRUIT & VEGETABLE CANNERS & PRESERVES	FROZEN FRUIT & VEGETABLE PROCESSORS	DAIRY PRODUCTS INDUSTRY
NFLD	2,246	X	X	-	-	X
P.E.I.	15,285	X	X	X	X	X
N.S.	28,865	X	X	X	X	X
N.B.	242,180	38,074	X	905	X	46,421
QUE.	90,038	X	X	X	X	6,756
ONT.	122,318	26,421	2,871	18,115	X	3,306
MAN.	12,484	X	X	X	X	X
SASK.	X	X	X	X	X	X
ALTA.	X	X	X	X	X	X
B.C.	6,415	X	X	X	X	X
YUKON & NWT	X	-	-	-	-	-
CANADA	532,902	110,334	24,706	26,113	11,644	64,435

Units = $'000

. . . Cont'd

TABLE 80 CONTINUED

ORIGIN - NEW BRUNSWICK

DESTINATION	FOOD & BEVERAGE INDUSTRIES	SLAUGHTERING & MEAT PROCESSORS	POULTRY PROCESSORS	FRUIT & VEGETABLE CANNERS & PRESERVES	FROZEN FRUIT & VEGETABLE PROCESSORS	DAIRY PRODUCTS INDUSTRY
NFLD	25,723	X	X	X	X	X
P.E.I.	22,118	X	X	X	X	X
N.S.	58,304	X	X	X	X	X
N.B.	242,180	38,074	X	905	X	46,421
QUE.	71,828	X	X	X	X	X
ONT.	93,285	X	X	X	X	X
MAN.	7,785	X	X	X	X	X
SASK.	5,141	X	X	X	X	X
ALTA.	9,568	X	X	X	X	X
B.C.	13,133	X	X	X	X	X
YUKON & NWT	X	X	X	X	X	X
OUTSIDE CANADA	90,340	X	X	X	X	X
UNALLOCATED	23,912	X	X	X	X	X
TOTAL	663,316	66,843	X	1,476	X	48,286

X = Confidential
- = Nil or Zero

Source: Statistics Canada Destination of Manufacturers Shipments, 1979 (31-530) unpublished data

SAINT JOHN - SAINT-JEAN
NEW BRUNSWICK - NOUVEAU BRUNSWICK

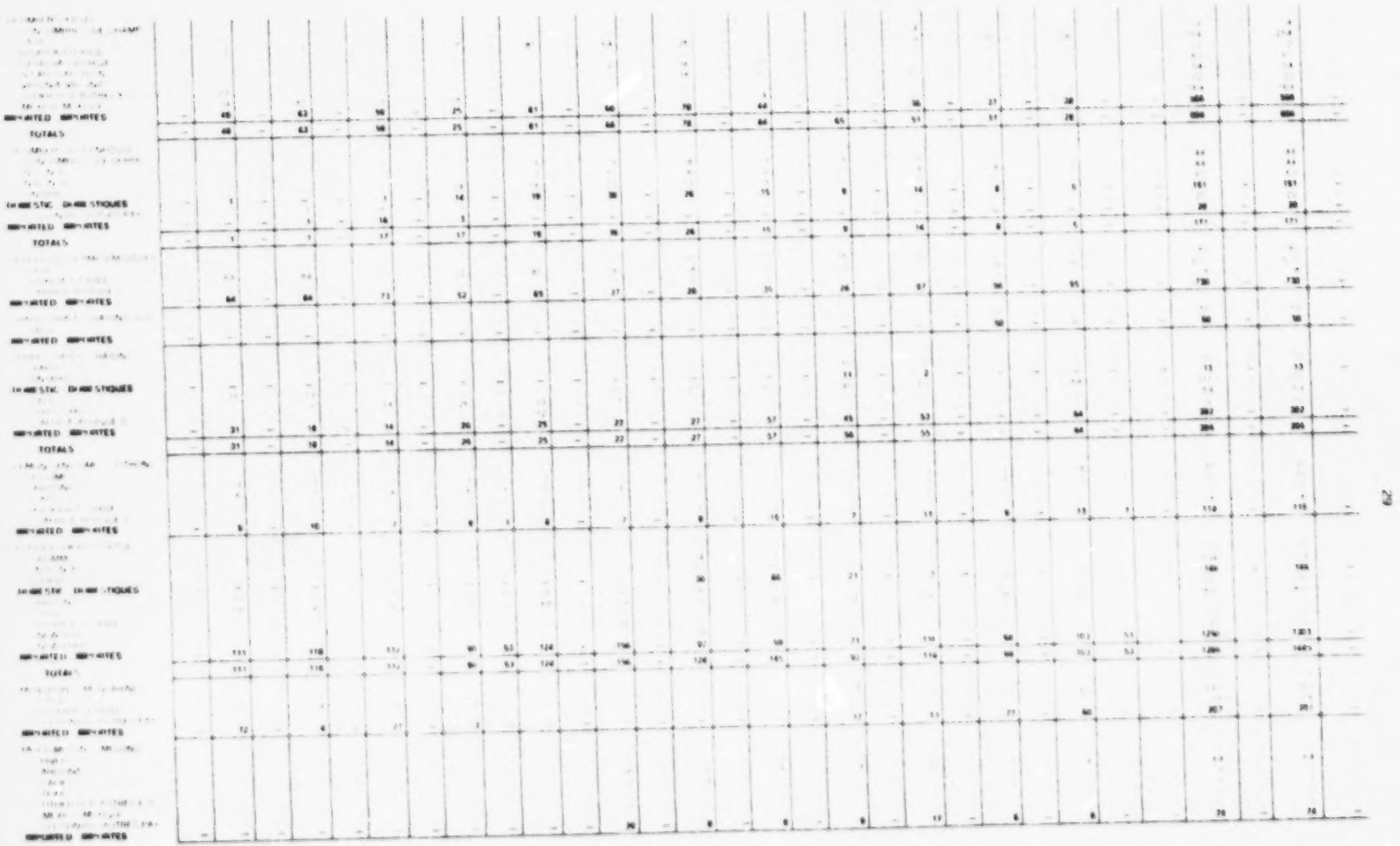
COMMODITY DENREE	JANUARY JANVIER		FEBRUARY FEVRIER		MARCH MARS		APRIL AVRIL		MAY MAI		JUNE JUIN		JULY JUILLET		AUGUST AOUT		SEPTEMBER SEPTEMBRE		OCTOBER OCTOBRE		NOVEMBER NOVEMBRE		DECEMBER DECEMBRE		TOTAL RAIL TOTAL FERREE		TOTAL TRUCK TOTAL CAMION		TOTAL RAIL AND TRUCK TOTAL FERREE ET CAMION	
	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	1969	1970	1969	1970	1969	1970
DOMESTIC DOMESTIQUES		99		99		73		73		19		13		5		1		116		338		167		221						
IMPORTED IMPORTES		5		14		11		10		48		46		28		45		16		31		21		10						
TOTALS		104		113		84		81		67		58		33		46		132		380		188		231						
DOMESTIC DOMESTIQUES		219		190		222		236		195		265		117		201		183		282		327		155						
IMPORTED IMPORTES														1		2														
TOTALS														1		2														
DOMESTIC DOMESTIQUES		47		49		22		8						2		3														
IMPORTED IMPORTES														49		32		34		52		54		60						
TOTALS		47		52		41		56		60		44		50		32		34		52		54		60						
IMPORTED IMPORTES						3		6		15		27		19		28		8		20		5		4						
DOMESTIC DOMESTIQUES		18 134 9 55 29 8 161		7 116 132		18 68		4 6						80 70		111		4 6 14 148		127 6 134		134 134								

Continued

SAINT JOHN - SAINT-JEAN
CONTINUED - CONTINUEE

COMMODITY DENREE	JANUARY JANVIER		FEBRUARY FEVRIER		MARCH MARS		APRIL AVRIL		MAY MAI		JUNE JUIN		JULY JUILLET		AUGUST AOUT		SEPTEMBER SEPTEMBRE		OCTOBER OCTOBRE		NOVEMBER NOVEMBRE		DECEMBER DECEMBRE		TOTAL RAIL TOTAL FERRE	TOTAL TRUCK TOTAL CAMIONS	TOTAL RAIL AND TRUCK TOTAL FERRE ET CAMION
	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION			
EMPLOYEES EMPLOYES																											
TOTALS																											
DOMESTIC DOMESTIQUES																											
EMPLOYEES EMPLOYES																											
TOTALS																											
DOMESTIC DOMESTIQUES																											
EMPLOYEES EMPLOYES																											
TOTALS																											
DOMESTIC DOMESTIQUES																											
EMPLOYEES EMPLOYES																											
TOTALS																											
DOMESTIC DOMESTIQUES																											
EMPLOYEES EMPLOYES																											
TOTALS																											
DOMESTIC DOMESTIQUES																											

Continued

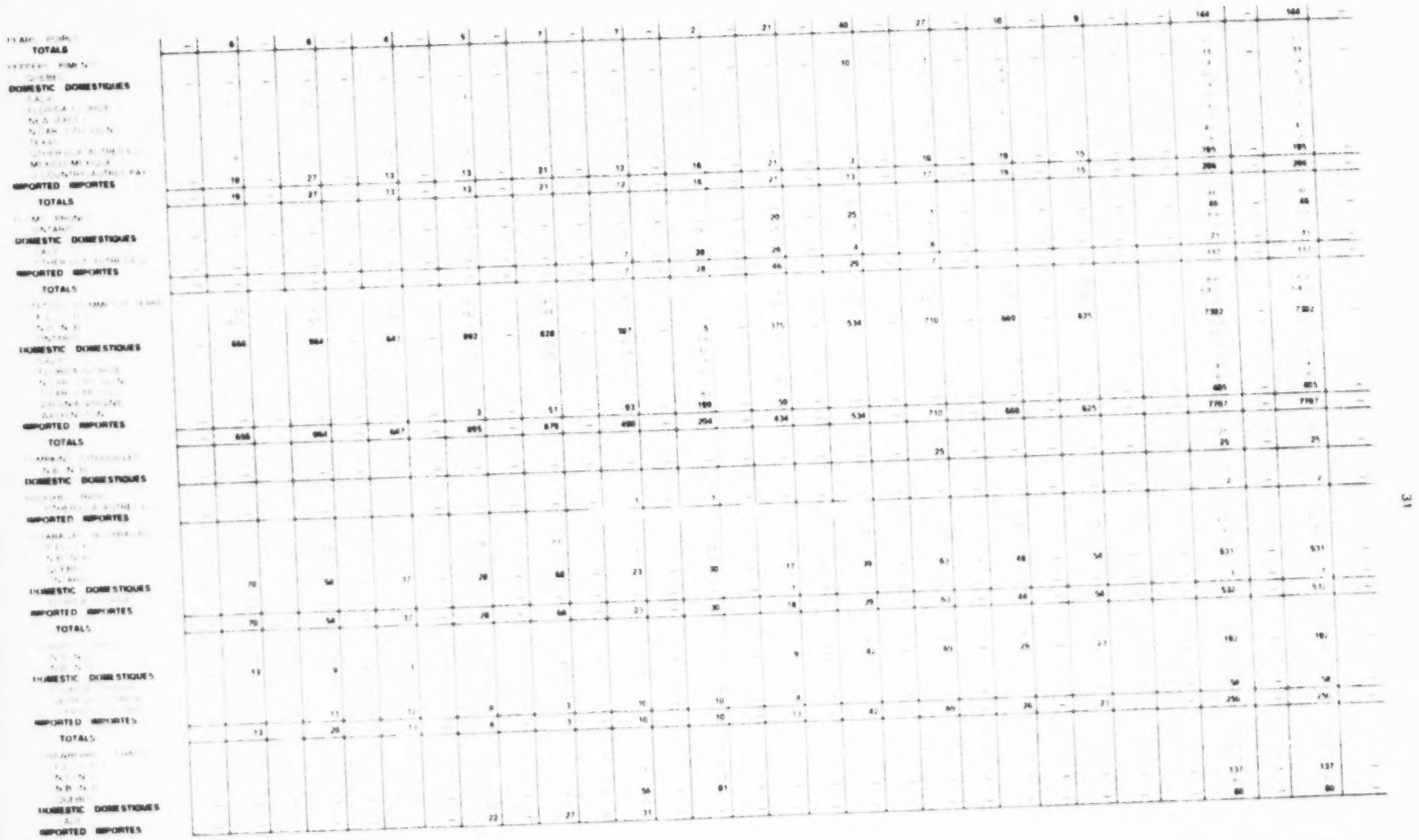


Continued

SAINT JOHN - SAINT-JEAN
CONTINUED - CONTINUEE

COMMODITY DENREE	JANUARY JANVIER		FEBRUARY FEVRIER		MARCH MARS		APRIL AVRIL		MAY MAI		JUNE JUIN		JULY JUILLET		AUGUST AOUT		SEPTEMBER SEPTEMBRE		OCTOBER OCTOBRE		NOVEMBER NOVEMBRE		DECEMBER DECEMBRE		TOTAL RAIL TOTAL FERREE		TOTAL TRUCK TOTAL CAMIONS		TOTAL RAIL AND TRUCK TOTAL FERREE ET CAMIONS	
	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	1969	1970	1969	1970	1969	1970
MUSHROOMS CHAMPIGNONS N B N B DOMESTIC DOMESTIQUES U A I IMPORTED IMPORTES **TOTALS**	–	–	–	1 4				1								5				1 4		1 4		1 4	–	–	22		22	
	–	–	–	6	–	–	–	1	–	1	–	–	–	–	–	5	–	–	–	6	–	6	–	6	–	–	23		23	
NETTAINES NETTAINES CALIF IMPORTED IMPORTES	–											13		20		20		13		3							75		75	
UNION UNITED KINGDOM ALBERTA ONTARIO DOMESTIC DOMESTIQUES ALB TEXAS IMPORTED IMPORTES	–	2																1		4							9		9	
TOTALS	–	3	–	–	–	–	–	–	–	–	–	5	–	8	–	7	–	6	–	5	–	7	–	5	–	–	51		51	
UNION UNITED KINGDOM ALBERTA QUEBEC ONTARIO DOMESTIC DOMESTIQUES ALB IDAHO OREGON TEXAS IMPORTED IMPORTES	–	111	–	146 1 1 6	–	162 4	–	80 5	–	95 7	–	64 30	–	27 57	–	94 4	–	105	–	125	–	133	–	99	–	–	1283 1 1 28		1283 1 1 28	
TOTALS	–	111	–	152	–	166	–	85	–	102	–	94	–	84	–	98	–	105	–	125	–	133	–	99	–	–	1313		1313	
GRANDES FRANCE ARIZONA CALIF FLORIDA FLORIDA S AFRICA AFRIQUE IMPORTED IMPORTES	–	194	–	1 1 239	–	1 1 318	–	1 1 181	98	1 1 212		1 1 116		1 1 109		1 1 138		1 1 87		1 1 165		1 1 121		1 1 264	98	–	1 1 2174		1 1 2370	
PARAMPS PANAMA P E I P E I N S N E N B N B QUEBEC DOMESTIC DOMESTIQUES	–	7	–	6	–	3	–	5	–	4						1		6		9		5		5			51		51	
PEACHES PECHES ONTARIO DOMESTIC DOMESTIQUES CALIF GEORGIA GEORGIE NEW JERSEY S CAM CAN IMPORTED IMPORTES	–											22		65		141 27		65 4		5							100 3		100 3	
TOTALS	–		–	–	–	–	–	–	–	–	–	22	–	65	–	168	–	69	–	5	–	–	–	–	–	–	103		103	
PEARS POIRES N S N E ONTARIO B C B DOMESTIC DOMESTIQUES CALIF OREGON WASHINGTON IMPORTED IMPORTES	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5	–	28	–	12	–	–	–	3	–	–	1 48		1 48	
	–	6	–	6	–	4	–	5	–	7	–	7	–	2	–	18	–	14	–	15	–	10	–	8	–	–	80		80	

Continued



Continued

SAINT JOHN - SAINT-JEAN
CONTINUED - CONTINUEE

COMMODITY DENREE	JANUARY JANVIER		FEBRUARY FEVRIER		MARCH MARS		APRIL AVRIL		MAY MAI		JUNE JUIN		JULY JUILLET		AUGUST AOUT		SEPTEMBER SEPTEMBRE		OCTOBER OCTOBRE		NOVEMBER NOVEMBRE		DECEMBER DECEMBRE		TOTAL RAIL TOTAL FERREE		TOTAL TRUCK TOTAL CAMIONS		TOTAL RAIL AND TRUCK TOTAL FERREE ET CAMIONS	
	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	RAIL FERREE	TRUCK CAMION	1980	1979	1980	1979	1980	1979
STRAWBERRIES FRAISES																														
TOTALS	-	-	-	-	-	-	-	22	-	27	-	67	-	61																
TOMATOES TOMATES																														
DE L'HAWAII																														
N.B. N.-B.																														
QUEBEC																														
ONTARIO																														
DOMESTIC DOMESTIQUES	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	-	73	-	20	-	-	-	-	-	-	117	-	117	
CALIF.																														
FLORIDA FLORIDE																														
ARIZONA																														
OTHER U.S. AUTRES E.U.																														
MEXICO MEXIQUE																														
IMPORTED IMPORTES		116		125		95		117		109		65		65		72		91		60		76		66			1042		1042	
TOTALS		116		125		95		117		109		65		65		96		164		80		76		66			1176		1176	
TOMATOES TOMATES																														
TOMATE DE L'HAWAII																														
N.S. N.-E.																														
N.B. N.-B.																														
ONTARIO																														
DOMESTIC DOMESTIQUES	-	-	-	-	-	-	-	-	-	23	-	38	-	37	-	66	-	11	-	35	-	10	-	6	-	-	182	-	182	
WATERMELON PASTEQUES																														
FLORIDA FLORIDE																														
GEORGIA GEORGIE																														
OTHER U.S. AUTRES E.U.																														
TEXAS																														
MEXICO MEXIQUE																														
IMPORTED IMPORTES	-	-	-	-	-	-	-	7	-	24	-	48	-	52	-	30	-	6	-	1	-	-	-	-	-	-	196	-	196	
ZUCCHINI ZUCCHINI																														
COUNTRY OTHER THAN U.S. PAYS AUTRES QUE E.U.																														
IMPORTED IMPORTES	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	1	
OTHERS AUTRES																														
IMPORTED IMPORTES	-	62	-	61	-	63	-	68	-	53	-	38	-	63	-	51	-	61	-	50	-	70	-	63	-	-	552	-	552	
TOTALS	-	62	-	61	-	63	-	68	-	53	-	38	-	63	-	51	-	61	-	50	-	70	-	63	-	-	552	-	552	
TOTAL DOMESTIC	-	1160	-	1672	-	1070	-	1167	-	1060	-	626	-	311	-	1107	-	1446	-	1688	-	1251	-	1244	-	-	13812	-	13812	
TOTAL IMPORTED	-	948	-	1094	-	1116	-	1044	150	1504	-	1376	-	1213	-	1119	-	683	-	1076	-	915	-	1007	150	-	13666	-	13238	
TOTAL UNLOADS	-	2108	-	2566	-	2186	-	2211	150	2564	-	2004	-	1524	-	2226	-	2129	-	2764	-	2166	-	2246	150	-	26750	-	26050	

Source: Annual Unload Report Fresh Fruits and Vegetables (On 12 Canadian Markets, 1980), Agriculture Canada, Marketing and Economics Branch

POOR

QUALITY

ORIGINAL